INDEPENDENT ORBITER ASSESSMENT

ASSESSMENT OF THE ORBITAL MANEUVERING SUBSYSTEM VOLUME 2 OF 2

26 FEBRUARY 1988

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-523
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 523
ITEM: RESISTOR, 12K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-524
NASA FMEA #: 05-6L-2082-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 524
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
WORST CASE IS VALVE DECLARED FAILED CLOSED AND REDUNDANT VALVE IS USED TO COMPLETE CROSSFEED. LOSS OF ALL REDUNDANCY COULD RESULT IN FALSELY FAILING THE CROSSFEED SYSTEM RESULTING IN LOSS OF MISSION. NASA WOULD BE RIGHT IF SENSORS CAN BE USED REDUNDANTLY TO TALKBACKS TO DETERMINE VALVE POSITION. BUT FLIGHT AND MALFUNCTION PROCS DO NOT MENTION THIS AND OMS FIRING SEQUENCER SOFTWARE DOES NOT USE THESE TALKBACKS.
SEE JSC 10588 PAGE 5-18.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-525
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 525
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-526
NASA FMEA #: 05-6L-2079A-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 526
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT BELLOWS FAILURE SHOULD NOT BE CONSIDERED AND CRITICALITY THUS REDUCED, SINCE IT CONSTITUTES A "MULTIPLE UNRELATED FAILURE" WHICH IS BEYOND THE SCOPE OF IOA'S INTERPRETATION OF NSTS 22206. NASA IS RIGHT THAT THIS FAILURE COULD CAUSE CONTINUOUS POWER ON THE ASSOCIATED VALVE(S), SINCE THE SIGNAL THROUGH THIS ITEM WOULD INHIBIT CLOSING OR OPENING WHEN THE VALVES REACH FULL CLOSED OR OPEN. HOWEVER, NASA'S SCENARIO WITH ANOTHER FAILURE CONSISTING OF BELLOWS RUPTURE IS IRRELEVANT. A BELLOWS RUPTURE ANYTIME EXPOSING ELECTRICAL COMPONENTS AND VALVE MOTOR TO PROPELLANT IS SERIOUS, NOT JUST WHEN THE VALVE MOTOR IS CONTINUOUSLY ON AND HOT. THAT IS, THIS FAILURE DOES NOT SIGNIFICANTLY CONTRIBUTE TO THE BELLOWS RUPTURE FAILURE. FURTHERMORE, THE VALVES ARE PROTECTED FROM CONTINUOUS POWER BY AN ELECTRICAL THERMAL SHUTOFF DEVICE WITHIN THE VALVE MOTOR AT NO MORE THAN 352 F, AND, ACCORDING TO THE SPECS, "THE MOTOR AND ACTUATION MECHANISM SHALL NOT FAIL AS A RESULT OF PROLONGED POWER APPLICATION." SEE AC MOTOR VALVE SPEC MC284-0430 SECT. 3.1, 3.2.1.2.9, 3.2.1.2.11.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-527
NASA FMEA #: 05-6L-2079-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 527
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-528
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 528
ITEM: RESISTOR, 12K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-529
NASA FMEA #: 05-6L-2090-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 529
ITEM: RESISTOR, 12K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-530
NASA FMEA #: 05-6L-2078-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 530
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF ALL REDUNDANCY WOULD RESULT IN LOSS OF DIRECT VALVE TALKBACK TO CREW. WORST CASE WOULD BE FALSELY FAILING THE A OR B VALVE CLOSED RESULTING IN LOSS OF MISSION DUE TO SAFETY CONSIDERATIONS.
NASA WOULD BE RIGHT IF SENSORS CAN BE USED (REDUNDANTLY TO TALKBACKS) TO DETERMINE VALVE POSITION. BUT FLIGHT AND MALFUNCTION PROCS DO NOT MENTION THIS AND OMS FIRING SEQUENCER SOFTWARE DOES NOT USE THESE TALKBACKS. PHYSICALLY CANNOT DETERMINE VALVE CLOSURE VIA A PRESSURE SENSOR, EXCEPT DURING A BURN. JUST CLOSING A TANK ISOLATION VALVE WILL NOT CAUSE A PRESSURE DIFFERENCE JUST DOWNSTREAM (UNLESS BURNING OMS) SINCE THERE IS NO FLUID MOVEMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-531
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 531
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-532
NASA FMEA #: 05-6L-2079A-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 532
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT BELLOWS FAILURE SHOULD NOT BE CONSIDERED AND CRITICALITY THUS REDUCED, SINCE IT CONSTITUTES A "MULTIPLE UNRELATED FAILURE" WHICH IS BEYOND THE SCOPE OF IOA'S INTERPRETATION OF NSTS 22206. NASA IS RIGHT THAT THIS FAILURE COULD CAUSE CONTINUOUS POWER ON THE ASSOCIATED VALVE(S), SINCE THE SIGNAL THROUGH THIS ITEM WOULD INHIBIT CLOSING OR OPENING WHEN THE VALVES REACH FULL CLOSED OR OPEN. HOWEVER, NASA'S SCENARIO WITH ANOTHER FAILURE CONSISTING OF BELLOWS RUPTURE IS IRRELEVANT. A BELLOWS RUPTURE ANYTIME EXPOSING ELECTRICAL COMPONENTS AND VALVE MOTOR TO PROPELLANT IS SERIOUS, NOT JUST WHEN THE VALVE MOTOR IS CONTINUOUSLY ON AND HOT. THAT IS, THIS FAILURE DOES NOT SIGNIFICANTLY CONTRIBUTE TO THE BELLOWS RUPTURE FAILURE. FURTHERMORE, THE VALVES ARE PROTECTED FROM CONTINUOUS POWER BY AN ELECTRICAL THERMAL SHUTOFF DEVICE WITHIN THE VALVE MOTOR AT NO MORE THAN 352 F, AND, ACCORDING TO THE SPECS, "THE MOTOR AND ACTUATION MECHANISM SHALL NOT FAIL AS A RESULT OF PROLONGED POWER APPLICATION." SEE AC MOTOR VALVE SPEC MC284-0430 SECT. 3.1, 3.2.1.2.9, 3.2.1.2.11.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-533
NASA FMEA #: 05-6L-2079-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 533
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-534
NASA FMEA #: 05-6L-2090-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 534
ITEM: RESISTOR, 12K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-535
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 535
ITEM: RESISTOR, 12K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-536
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 536
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-537
NASA FMEA #: 05-6L-2078-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 537
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF ALL REDUNDANCY WOULD RESULT IN LOSS OF DIRECT VALVE TALKBACK TO CREW. WORST CASE WOULD BE FALSELY FAILING THE A OR B VALVE CLOSED RESULTING IN LOSS OF MISSION DUE TO SAFETY CONSIDERATIONS.
NASA WOULD BE RIGHT IF SENSORS CAN BE USED (REDUNDANTLY TO TALKBACKS) TO DETERMINE VALVE POSITION. BUT FLIGHT AND MALFUNCTION PROCS DO NOT MENTION THIS AND OMS FIRING SEQUENCER SOFTWARE DOES NOT USE THESE TALKBACKS. PHYSICALLY CANNOT DETERMINE VALVE CLOSURE VIA A PRESSURE SENSOR, EXCEPT DURING A BURN. JUST CLOSING A TANK ISOLATION VALVE WILL NOT CAUSE A PRESSURE DIFFERENCE JUST DOWNSTREAM (UNLESS BURNING OMS) SINCE THERE IS NO FLUID MOVEMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-538
NASA FMEA #: 05-6L-2083A-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 538
ITEM: RESISTOR, 1.2K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT BELLOWS FAILURE SHOULD NOT BE CONSIDERED AND CRITICALITY THUS REDUCED, SINCE IT CONSTITUTES A "MULTIPLE UNRELATED FAILURE" WHICH IS BEYOND THE SCOPE OF IOA'S INTERPRETATION OF NSTS 22206. NASA IS RIGHT THAT THIS FAILURE COULD CAUSE CONTINUOUS POWER ON THE ASSOCIATED VALVE(S), SINCE THE SIGNAL THROUGH THIS ITEM WOULD INHIBIT CLOSING OR OPENING WHEN THE VALVES REACH FULL CLOSED OR OPEN. HOWEVER, NASA'S SCENARIO WITH ANOTHER FAILURE CONSISTING OF BELLOWS RUPTURE IS IRRELEVANT. A BELLOWS RUPTURE ANYTIME EXPOSING ELECTRICAL COMPONENTS AND VALVE MOTOR TO PROPELLANT IS SERIOUS, NOT JUST WHEN THE VALVE MOTOR IS CONTINUOUSLY ON AND HOT. THAT IS, THIS FAILURE DOES NOT SIGNIFICANTLY CONTRIBUTE TO THE BELLOWS RUPTURE FAILURE. FURTHERMORE, THE VALVES ARE PROTECTED FROM CONTINUOUS POWER BY AN ELECTRICAL THERMAL SHUTOFF DEVICE WITHIN THE VALVE MOTOR AT NO MORE THAN 352 F, AND, ACCORDING TO THE SPECS, "THE MOTOR AND ACTUATION MECHANISM SHALL NOT FAIL AS A RESULT OF PROLONGED POWER APPLICATION." SEE AC MOTOR VALVE SPEC MC284-0430 SECT. 3.1, 3.2.1.2.9, 3.2.1.2.11.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-539
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 539
ITEM: RESISTOR, 1.2K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-540
NASA FMEA #: 05-6L-2082-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 540
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-541
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 541
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-542
NASA FMEA #: 05-6L-2082-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 542
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-543
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 543
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-544
NASA FMEA #: 05-6L-2083A-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 544
ITEM: RESISTOR, 1.2K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT BELLOWS FAILURE SHOULD NOT BE CONSIDERED AND CRITICALITY THUS REDUCED, SINCE IT CONSTITUTES A "MULTIPLE UNRELATED FAILURE" WHICH IS BEYOND THE SCOPE OF IOA'S INTERPRETATION OF NSTS 22206. NASA IS RIGHT THAT THIS FAILURE COULD CAUSE CONTINUOUS POWER ON THE ASSOCIATED VALVE(S), SINCE THE SIGNAL THROUGH THIS ITEM WOULD INHIBIT CLOSING OR OPENING WHEN THE VALVES REACH FULL CLOSED OR OPEN. HOWEVER, NASA'S SCENARIO WITH ANOTHER FAILURE CONSISTING OF BELLOWS RUPTURE IS IRRELEVANT. A BELLOWS RUPTURE ANYTIME EXPOSING ELECTRICAL COMPONENTS AND VALVE MOTOR TO PROPELLANT IS SERIOUS, NOT JUST WHEN THE VALVE MOTOR IS CONTINUOUSLY ON AND HOT. THAT IS, THIS FAILURE DOES NOT SIGNIFICANTLY CONTRIBUTE TO THE BELLOWS RUPTURE FAILURE. FURTHERMORE, THE VALVES ARE PROTECTED FROM CONTINUOUS POWER BY AN ELECTRICAL THERMAL SHUTOFF DEVICE WITHIN THE VALVE MOTOR AT NO MORE THAN 352 F, AND, ACCORDING TO THE SPECS, "THE MOTOR AND ACTUATION MECHANISM SHALL NOT FAIL AS A RESULT OF PROLONGED POWER APPLICATION." SEE AC MOTOR VALVE SPEC MC284-0430 SECT. 3.1, 3.2.1.2.9, 3.2.1.2.11.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-545
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 545
ITEM: RESISTOR, 1.2K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-546
NASA FMEA #: 05-6L-2082-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 546
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-547
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 547
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-548
NASA FMEA #: 05-6L-2082-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 548
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-549
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 549
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-550
NASA FMEA #: 05-6L-2078-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 550
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-551
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 551
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-552
NASA FMEA #: 05-6L-2078-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 552
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-553
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 553
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-554
NASA FMEA #: 05-6L-2078-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 554
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-555
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 555
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-556
NASA FMEA #: 05-6L-2078-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 556
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-556
NASA FMEA #: 05-6L-2091-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 566
ITEM: RESISTOR, 12K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-557
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 557
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-558
NASA FMEA #: 05-6L-2083-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 558
ITEM: RESISTOR, 1.2K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT BELLOWS FAILURE SHOULD NOT BE CONSIDERED AND CRITICALITY THUS REDUCED, SINCE IT CONSTITUTES A "MULTIPLE UNRELATED FAILURE" WHICH IS BEYOND THE SCOPE OF IOA'S INTERPRETATION OF NSTS 22206. NASA IS RIGHT THAT THIS FAILURE COULD CAUSE CONTINUOUS POWER ON THE ASSOCIATED VALVE(S), SINCE THE SIGNAL THROUGH THIS ITEM WOULD INHIBIT CLOSING OR OPENING WHEN THE VALVES REACH FULL CLOSED OR OPEN. HOWEVER, NASA'S SCENARIO WITH ANOTHER FAILURE CONSISTING OF BELLOWS RUPTURE IS IRRELEVANT. A BELLOWS RUPTURE ANYTIME EXPOSING ELECTRICAL COMPONENTS AND VALVE MOTOR TO PROPELLANT IS SERIOUS, NOT JUST WHEN THE VALVE MOTOR IS CONTINUOUSLY ON AND HOT. THAT IS, THIS FAILURE DOES NOT SIGNIFICANTLY CONTRIBUTE TO THE BELLOWS RUPTURE FAILURE. FURTHERMORE, THE VALVES ARE PROTECTED FROM CONTINUOUS POWER BY AN ELECTRICAL THERMAL SHUTOFF DEVICE WITHIN THE VALVE MOTOR AT NO MORE THAN 352 F, AND, ACCORDING TO THE SPECS, "THE MOTOR AND ACTUATION MECHANISM SHALL NOT FAIL AS A RESULT OF PROLONGED POWER APPLICATION." SEE AC MOTOR VALVE SPEC MC284-0430 SECT. 3.1, 3.2.1.2.9, 3.2.1.2.11.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-559
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 559
ITEM: RESISTOR, 1.2K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-560
NASA FMEA #: 05-6L-2091-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 560
ITEM: RESISTOR, 12K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-561
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 561
ITEM: RESISTOR, 12K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-562
NASA FMEA #: 05-6L-2082-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 562
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
WORST CASE IS VALVE DECLARED FAILED CLOSED AND REDUNDANT VALVE IS USED TO COMPLETE CROSSFEED. LOSS OF ALL REDUNDANCY COULD RESULT IN FALSELY FAILING THE CROSSFEED SYSTEM RESULTING IN LOSS OF MISSION. NASA WOULD BE RIGHT IF SENSORS CAN BE USED REDUNDANTLY TO TALKBACKS TO DETERMINE VALVE POSITION. BUT FLIGHT AND MALFUNCTION PROCS DO NOT MENTION THIS AND OMS FIRING SEQUENCER SOFTWARE DOES NOT USE THESE TALKBACKS.
SEE JSC 10588 PAGE 5-18.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-563
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 563
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-564
NASA FMEA #: 05-6L-2083-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 564
ITEM: RESISTOR, 1.2K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT BELLOWS FAILURE SHOULD NOT BE CONSIDERED AND CRITICALITY THUS REDUCED, SINCE IT CONSTITUTES A "MULTIPLE UNRELATED FAILURE" WHICH IS BEYOND THE SCOPE OF IOA'S INTERPRETATION OF NSTS 22206. NASA IS RIGHT THAT THIS FAILURE COULD CAUSE CONTINUOUS POWER ON THE ASSOCIATED VALVE(S), SINCE THE SIGNAL THROUGH THIS ITEM WOULD INHIBIT CLOSING OR OPENING WHEN THE VALVES REACH FULL CLOSED OR OPEN. HOWEVER, NASA'S SCENARIO WITH ANOTHER FAILURE CONSISTING OF BELLOWS RUPTURE IS IRRELEVANT. A BELLOWS RUPTURE ANYTIME EXPOSING ELECTRICAL COMPONENTS AND VALVE MOTOR TO PROPELLANT IS SERIOUS, NOT JUST WHEN THE VALVE MOTOR IS CONTINUOUSLY ON AND HOT. THAT IS, THIS FAILURE DOES NOT SIGNIFICANTLY CONTRIBUTE TO THE BELLOWS RUPTURE FAILURE. FURTHERMORE, THE VALVES ARE PROTECTED FROM CONTINUOUS POWER BY AN ELECTRICAL THERMAL SHUTOFF DEVICE WITHIN THE VALVE MOTOR AT NO MORE THAN 352 F, AND, ACCORDING TO THE SPECS, "THE MOTOR AND ACTUATION MECHANISM SHALL NOT FAIL AS A RESULT OF PROLONGED POWER APPLICATION." SEE AC MOTOR VALVE SPEC MC284-0430 SECT. 3.1, 3.2.1.2.9, 3.2.1.2.11.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-565
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 565
ITEM: RESISTOR, 1.2K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-567
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 567
ITEM: RESISTOR, 12K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-568
NASA FMEA #: 05-6L-2082-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 568
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
WORST CASE IS VALVE DECLARED FAILED CLOSED AND REDUNDANT VALVE IS USED TO COMPLETE CROSSFEED. LOSS OF ALL REDUNDANCY COULD RESULT IN FALSELY FAILING THE CROSSFEED SYSTEM RESULTING IN LOSS OF MISSION. NASA WOULD BE RIGHT IF SENSORS CAN BE USED REDUNDANTLY TO TALKBACKS TO DETERMINE VALVE POSITION. BUT FLIGHT AND MALFUNCTION PROCS DO NOT MENTION THIS AND OMS FIRING SEQUENCER SOFTWARE DOES NOT USE THESE TALKBACKS.
SEE JSC 10588 PAGE 5-18.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-569
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 569
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-570
NASA FMEA #: 05-6L-2079A-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 570
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT BELLOWS FAILURE SHOULD NOT BE CONSIDERED AND CRITICALITY THUS REDUCED, SINCE IT CONSTITUTES A "MULTIPLE UNRELATED FAILURE" WHICH IS BEYOND THE SCOPE OF IOA'S INTERPRETATION OF NSTS 22206. NASA IS RIGHT THAT THIS FAILURE COULD CAUSE CONTINUOUS POWER ON THE ASSOCIATED VALVE(S), SINCE THE SIGNAL THROUGH THIS ITEM WOULD INHIBIT CLOSING OR OPENING WHEN THE VALVES REACH FULL CLOSED OR OPEN. HOWEVER, NASA'S SCENARIO WITH ANOTHER FAILURE CONSISTING OF BELLOWS RUPTURE IS IRRELEVANT. A BELLOWS RUPTURE ANYTIME EXPOSING ELECTRICAL COMPONENTS AND VALVE MOTOR TO PROPELLANT IS SERIOUS, NOT JUST WHEN THE VALVE MOTOR IS CONTINUOUSLY ON AND HOT. THAT IS, THIS FAILURE DOES NOT SIGNIFICANTLY CONTRIBUTE TO THE BELLOWS RUPTURE FAILURE. FURTHERMORE, THE VALVES ARE PROTECTED FROM CONTINUOUS POWER BY AN ELECTRICAL THERMAL SHUTOFF DEVICE WITHIN THE VALVE MOTOR AT NO MORE THAN 352 F, AND, ACCORDING TO THE SPECS, "THE MOTOR AND ACTUATION MECHANISM SHALL NOT FAIL AS A RESULT OF PROLONGED POWER APPLICATION." SEE AC MOTOR VALVE SPEC MC284-0430 SECT. 3.1, 3.2.1.2.9, 3.2.1.2.11.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-571
NASA FMEA #: 05-6L-2079-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 571
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-572
NASA FMEA #: 05-6L-2079-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 572
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT BELLOWS FAILURE SHOULD NOT BE CONSIDERED AND CRITICALITY THUS REDUCED, SINCE IT CONSTITUTES A "MULTIPLE UNRELATED FAILURE" WHICH IS BEYOND THE SCOPE OF IOA'S INTERPRETATION OF NSTS 22206. NASA IS RIGHT THAT THIS FAILURE COULD CAUSE CONTINUOUS POWER ON THE ASSOCIATED VALVE(S), SINCE THE SIGNAL THROUGH THIS ITEM WOULD INHIBIT CLOSING OR OPENING WHEN THE VALVES REACH FULL CLOSED OR OPEN. HOWEVER, NASA'S SCENARIO WITH ANOTHER FAILURE CONSISTING OF BELLOWS RUPTURE IS IRRELEVANT. A BELLOWS RUPTURE ANYTIME EXPOSING ELECTRICAL COMPONENTS AND VALVE MOTOR TO PROPELLANT IS SERIOUS, NOT JUST WHEN THE VALVE MOTOR IS CONTINUOUSLY ON AND HOT. THAT IS, THIS FAILURE DOES NOT SIGNIFICANTLY CONTRIBUTE TO THE BELLOWS RUPTURE FAILURE. FURTHERMORE, THE VALVES ARE PROTECTED FROM CONTINUOUS POWER BY AN ELECTRICAL THERMAL SHUTOFF DEVICE WITHIN THE VALVE MOTOR AT NO MORE THAN 352 F, AND, ACCORDING TO THE SPECS, "THE MOTOR AND ACTUATION MECHANISM SHALL NOT FAIL AS A RESULT OF PROLONGED POWER APPLICATION." SEE AC MOTOR VALVE SPEC MC284-0430 SECT. 3.1, 3.2.1.2.9, 3.2.1.2.11.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-573
NASA FMEA #: 05-6L-2079-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 573
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-574
NASA FMEA #: 05-6L-2090-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 574
ITEM: RESISTOR, 12K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-575
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 575
ITEM: RESISTOR, 12K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-576
NASA FMEA #: 05-6L-2078-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 576
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF ALL REDUNDANCY WOULD RESULT IN LOSS OF DIRECT VALVE TALKBACK TO CREW. WORST CASE WOULD BE FALSELY FAILING THE A OR B VALVE CLOSED RESULTING IN LOSS OF MISSION DUE TO SAFETY CONSIDERATIONS.
NASA WOULD BE RIGHT IF SENSORS CAN BE USED (REDUNDANTLY TO TALKBACKS) TO DETERMINE VALVE POSITION. BUT FLIGHT AND MALFUNCTION PROCS DO NOT MENTION THIS AND OMS FIRING SEQUENCER SOFTWARE DOES NOT USE THESE TALKBACKS. PHYSICALLY CANNOT DETERMINE VALVE CLOSURE VIA A PRESSURE SENSOR, EXCEPT DURING A BURN. JUST CLOSING A TANK ISOLATION VALVE WILL NOT CAUSE A PRESSURE DIFFERENCE JUST DOWNSTREAM (UNLESS BURNING OMS) SINCE THERE IS NO FLUID MOVEMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-577
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 577
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-578
NASA FMEA #: 05-6L-2079-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 578
ITEM: RESISTOR, 1.2K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT BELLOWS FAILURE SHOULD NOT BE CONSIDERED AND CRITICALITY THUS REDUCED, SINCE IT CONSTITUTES A "MULTIPLE UNRELATED FAILURE" WHICH IS BEYOND THE SCOPE OF IOA'S INTERPRETATION OF NSTS 22206. NASA IS RIGHT THAT THIS FAILURE COULD CAUSE CONTINUOUS POWER ON THE ASSOCIATED VALVE(S), SINCE THE SIGNAL THROUGH THIS ITEM WOULD INHIBIT CLOSING OR OPENING WHEN THE VALVES REACH FULL CLOSED OR OPEN. HOWEVER, NASA'S SCENARIO WITH ANOTHER FAILURE CONSISTING OF BELLOWS RUPTURE IS IRRELEVANT. A BELLOWS RUPTURE ANYTIME EXPOSING ELECTRICAL COMPONENTS AND VALVE MOTOR TO PROPELLANT IS SERIOUS, NOT JUST WHEN THE VALVE MOTOR IS CONTINUOUSLY ON AND HOT. THAT IS, THIS FAILURE DOES NOT SIGNIFICANTLY CONTRIBUTE TO THE BELLOWS RUPTURE FAILURE. FURTHERMORE, THE VALVES ARE PROTECTED FROM CONTINUOUS POWER BY AN ELECTRICAL THERMAL SHUTOFF DEVICE WITHIN THE VALVE MOTOR AT NO MORE THAN 352 F, AND, ACCORDING TO THE SPECS, "THE MOTOR AND ACTUATION MECHANISM SHALL NOT FAIL AS A RESULT OF PROLONGED POWER APPLICATION." SEE AC MOTOR VALVE SPEC MC284-0430 SECT. 3.1, 3.2.1.2.9, 3.2.1.2.11.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-579
NASA FMEA #: 05-6L-2079-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 579
ITEM: RESISTOR, 1.2K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-580
NASA FMEA #: 05-6L-2079A-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 580
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT BELLOWS FAILURE SHOULD NOT BE CONSIDERED AND CRITICALITY THUS REDUCED, SINCE IT CONSTITUTES A "MULTIPLE UNRELATED FAILURE" WHICH IS BEYOND THE SCOPE OF IOA'S INTERPRETATION OF NSTS 22206. NASA IS RIGHT THAT THIS FAILURE COULD CAUSE CONTINUOUS POWER ON THE ASSOCIATED VALVE(S), SINCE THE SIGNAL THROUGH THIS ITEM WOULD INHIBIT CLOSING OR OPENING WHEN THE VALVES REACH FULL CLOSED OR OPEN. HOWEVER, NASA'S SCENARIO WITH ANOTHER FAILURE CONSISTING OF BELLOWS RUPTURE IS IRRELEVANT. A BELLOWS RUPTURE ANYTIME EXPOSING ELECTRICAL COMPONENTS AND VALVE MOTOR TO PROPELLANT IS SERIOUS, NOT JUST WHEN THE VALVE MOTOR IS CONTINUOUSLY ON AND HOT. THAT IS, THIS FAILURE DOES NOT SIGNIFICANTLY CONTRIBUTE TO THE BELLOWS RUPTURE FAILURE. FURTHERMORE, THE VALVES ARE PROTECTED FROM CONTINUOUS POWER BY AN ELECTRICAL THERMAL SHUTOFF DEVICE WITHIN THE VALVE MOTOR AT NO MORE THAN 352 F, AND, ACCORDING TO THE SPECS, "THE MOTOR AND ACTUATION MECHANISM SHALL NOT FAIL AS A RESULT OF PROLONGED POWER APPLICATION." SEE AC MOTOR VALVE SPEC MC284-0430 SECT. 3.1, 3.2.1.2.9, 3.2.1.2.11.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-581
NASA FMEA #: 05-6L-2079-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 581
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-582
NASA FMEA #: 05-6L-2090-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 582
ITEM: RESISTOR, 12K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-583
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 583
ITEM: RESISTOR, 12K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-584
NASA FMEA #: 05-6L-2078-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 584
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF ALL REDUNDANCY WOULD RESULT IN LOSS OF DIRECT VALVE TALKBACK TO CREW. WORST CASE WOULD BE FALSELY FAILING THE A OR B VALVE CLOSED RESULTING IN LOSS OF MISSION DUE TO SAFETY CONSIDERATIONS.
NASA WOULD BE RIGHT IF SENSORS CAN BE USED (REDUNDANTLY TO TALKBACKS) TO DETERMINE VALVE POSITION. BUT FLIGHT AND MALFUNCTION PROCS DO NOT MENTION THIS AND OMS FIRING SEQUENCER SOFTWARE DOES NOT USE THESE TALKBACKS. PHYSICALLY CANNOT DETERMINE VALVE CLOSURE VIA A PRESSURE SENSOR, EXCEPT DURING A BURN. JUST CLOSING A TANK ISOLATION VALVE WILL NOT CAUSE A PRESSURE DIFFERENCE JUST DOWNSTREAM (UNLESS BURNING OMS) SINCE THERE IS NO FLUID MOVEMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-585
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 585
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-586
NASA FMEA #: 05-6L-2028-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 586
ITEM: SWITCH TOGGLE LT/RT

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /1R]	[P]	[F]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ACCORDING TO THE LAST AVAILABLE NASA CRITICALITY, THIS FMEA SHOULD BE IN THE NEW NASA CIL LIST, BUT IT IS NOT. IOA ASSUMES THAT NASA DOWNGRADED THIS FMEA TO A NON-CIL SINCE IT DOES NOT APPEAR IN THE NEW NASA CIL LIST. IOA RECOMMENDS THAT NASA USE THE PREVIOUS (LAST AVAILABLE TO IOA) CRITICALITY AND SCREENS (3/1R PFP) AND REINSTATE THIS FMEA AS A CIL.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-587
NASA FMEA #: 05-6L-2028-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 587
ITEM: SWITCH TOGGLE LT/RT

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT BELLOWS FAILURE SHOULD NOT BE CONSIDERED AND CRITICALITY THUS REDUCED, SINCE IT CONSTITUTES A "MULTIPLE UNRELATED FAILURE" WHICH IS BEYOND THE SCOPE OF IOA'S INTERPRETATION OF NSTS 22206. NASA IS RIGHT THAT THIS FAILURE COULD CAUSE CONTINUOUS POWER ON THE ASSOCIATED VALVE(S), SINCE THE SIGNAL THROUGH THIS ITEM WOULD INHIBIT CLOSING OR OPENING WHEN THE VALVES REACH FULL CLOSED OR OPEN. HOWEVER, NASA'S SCENARIO WITH ANOTHER FAILURE CONSISTING OF BELLOWS RUPTURE IS IRRELEVANT. A BELLOWS RUPTURE ANYTIME EXPOSING ELECTRICAL COMPONENTS AND VALVE MOTOR TO PROPELLANT IS SERIOUS, NOT JUST WHEN THE VALVE MOTOR IS CONTINUOUSLY ON AND HOT. THAT IS, THIS FAILURE DOES NOT SIGNIFICANTLY CONTRIBUTE TO THE BELLOWS RUPTURE FAILURE. FURTHERMORE, THE VALVES ARE PROTECTED FROM CONTINUOUS POWER BY AN ELECTRICAL THERMAL SHUTOFF DEVICE WITHIN THE VALVE MOTOR AT NO MORE THAN 352 F, AND, ACCORDING TO THE SPECS, "THE MOTOR AND ACTUATION MECHANISM SHALL NOT FAIL AS A RESULT OF PROLONGED POWER APPLICATION." SEE AC MOTOR VALVE SPEC MC284-0430 SECT. 3.1, 3.2.1.2.9, 3.2.1.2.11.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-588
NASA FMEA #: 05-6L-2028-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 588
ITEM: SWITCH TOGGLE LT/RT

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /1R]	[P]	[P]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA'S CRITICALITY, SINCE THE CRIT AGREES WITH OMS HARDWARE FMEA 03-3-2008-2 (CAUSES CROSSFEED VALVE TO FAIL CLOSED). HOWEVER, NASA FAILED B SCREEN BECAUSE ONE OF THE TWO POLES FAILING IS UNDETECTABLE. IOA BELIEVES THIS IS A CARRY-OVER FROM WHEN NASA FAILED ONLY ONE CONTACT SET, AND RECOMMENDS PASSING THIS B SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-589
NASA FMEA #: 05-6L-2028-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 589
ITEM: SWITCH TOGGLE LT/RT

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /1R]	[P]	[F]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ACCORDING TO THE LAST AVAILABLE NASA CRITICALITY, THIS FMEA SHOULD BE IN THE NEW NASA CIL LIST, BUT IT IS NOT. IOA ASSUMES THAT NASA DOWNGRADED THIS FMEA TO A NON-CIL SINCE IT DOES NOT APPEAR IN THE NEW NASA CIL LIST. IOA RECOMMENDS THAT NASA USE THE PREVIOUS (LAST AVAILABLE TO IOA) CRITICALITY AND SCREENS (3/1R PFP) AND REINSTATE THIS FMEA AS A CIL.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-590
NASA FMEA #: 05-6L-2028-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 590
ITEM: SWITCH TOGGLE LT/RT

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT BELLOWS FAILURE SHOULD NOT BE CONSIDERED AND CRITICALITY THUS REDUCED, SINCE IT CONSTITUTES A "MULTIPLE UNRELATED FAILURE" WHICH IS BEYOND THE SCOPE OF IOA'S INTERPRETATION OF NSTS 22206. NASA IS RIGHT THAT THIS FAILURE COULD CAUSE CONTINUOUS POWER ON THE ASSOCIATED VALVE(S), SINCE THE SIGNAL THROUGH THIS ITEM WOULD INHIBIT CLOSING OR OPENING WHEN THE VALVES REACH FULL CLOSED OR OPEN. HOWEVER, NASA'S SCENARIO WITH ANOTHER FAILURE CONSISTING OF BELLOWS RUPTURE IS IRRELEVANT. A BELLOWS RUPTURE ANYTIME EXPOSING ELECTRICAL COMPONENTS AND VALVE MOTOR TO PROPELLANT IS SERIOUS, NOT JUST WHEN THE VALVE MOTOR IS CONTINUOUSLY ON AND HOT. THAT IS, THIS FAILURE DOES NOT SIGNIFICANTLY CONTRIBUTE TO THE BELLOWS RUPTURE FAILURE. FURTHERMORE, THE VALVES ARE PROTECTED FROM CONTINUOUS POWER BY AN ELECTRICAL THERMAL SHUTOFF DEVICE WITHIN THE VALVE MOTOR AT NO MORE THAN 352 F, AND, ACCORDING TO THE SPECS, "THE MOTOR AND ACTUATION MECHANISM SHALL NOT FAIL AS A RESULT OF PROLONGED POWER APPLICATION." SEE AC MOTOR VALVE SPEC MC284-0430 SECT. 3.1, 3.2.1.2.9, 3.2.1.2.11.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-591
NASA FMEA #: 05-6L-2028-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 591
ITEM: SWITCH TOGGLE LT/RT

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /1R]	[P]	[P]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA'S CRITICALITY, SINCE THE CRIT AGREES WITH OMS HARDWARE FMEA 03-3-2008-2 (CAUSES CROSSFEED VALVE TO FAIL CLOSED). HOWEVER, NASA FAILED B SCREEN BECAUSE ONE OF THE TWO POLES FAILING IS UNDETECTABLE. IOA BELIEVES THIS IS A CARRY-OVER FROM WHEN NASA FAILED ONLY ONE CONTACT SET, AND RECOMMENDS PASSING THIS B SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-592
NASA FMEA #: 05-6L-2027-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 592
ITEM: SWITCH TOGGLE LT/RT

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-593
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 593
ITEM: SWITCH TOGGLE LT/RT

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT NASA GENERATE A FMEA WITH THIS "STUCK IN OPEN POSITION (BOTH CONTACT SETS)" FAILURE MODE. THE CLOSEST EXISTING MATCH AVAILABLE IS NASA'S FMEA 05-6L-2027-1 WITH A "FAILS TO TRANSFER, FAILS TO CLOSE, FAILS TO CONDUCT (ONE CONTACT SET)" FAILURE MODE, WHICH IS ALREADY MATCHED TO MDAC-592 AND 595.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-594
NASA FMEA #: 05-6L-2027-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 594
ITEM: SWITCH TOGGLE LT/RT

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA'S RECOMMENDED CRITICALITY IS DRIVEN BY OMS HARDWARE FMEA 03-3-2007-2, SINCE THIS FAILURE CAUSES THE TANK ISOLATION VALVE TO FAIL CLOSED. ALSO, NASA FAILED ONLY ONE POLE, CONSIDERING THE OTHER POLE AS REDUNDANT, WHEREAS IOA CONSIDERED THE WORST CASE FAILURE MODE BY FAILING A PART COMMON TO BOTH POLES (E.G. TOGGLE LEVER). THIS IS THE REASON FOR IOA'S HIGHER CRITICALITY. NASA CONSIDERED ONE POLE TO BE STANDBY REDUNDANT TO THE OTHER AND SO HAD "NOT APPLICABLE" FOR B SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-595
NASA FMEA #: 05-6L-2027-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 595
ITEM: SWITCH TOGGLE LT/RT

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-596
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 596
ITEM: SWITCH TOGGLE LT/RT

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT NASA GENERATE A FMEA WITH THIS "STUCK IN OPEN POSITION (BOTH CONTACT SETS)" FAILURE MODE. THE CLOSEST EXISTING MATCH AVAILABLE IS NASA'S FMEA 05-6L-2027-1 WITH A "FAILS TO TRANSFER, FAILS TO CLOSE, FAILS TO CONDUCT (ONE CONTACT SET)" FAILURE MODE, WHICH IS ALREADY MATCHED TO MDAC-592 AND 595.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-597
NASA FMEA #: 05-6L-2027-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 597
ITEM: SWITCH TOGGLE LT/RT

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA'S RECOMMENDED CRITICALITY IS DRIVEN BY OMS HARDWARE FMEA 03-3-2007-2, SINCE THIS FAILURE CAUSES THE TANK ISOLATION VALVE TO FAIL CLOSED. ALSO, NASA FAILED ONLY ONE POLE, CONSIDERING THE OTHER POLE AS REDUNDANT, WHEREAS IOA CONSIDERED THE WORST CASE FAILURE MODE BY FAILING A PART COMMON TO BOTH POLES (E.G. TOGGLE LEVER). THIS IS THE REASON FOR IOA'S HIGHER CRITICALITY. NASA CONSIDERED ONE POLE TO BE STANDBY REDUNDANT TO THE OTHER AND SO HAD "NOT APPLICABLE" FOR B SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-598
NASA FMEA #: 05-6L-2011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 598
ITEM: FUSE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-599
NASA FMEA #: 05-6L-2011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 599
ITEM: FUSE, 3A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-600
NASA FMEA #: 05-6L-2152-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 600
ITEM: INDICATOR, POSITION BARBERPOLE TALKBACK

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
WORST CASE IS VALVE DECLARED FAILED CLOSED AND REDUNDANT VALVE IS USED TO COMPLETE CROSSFEED. LOSS OF ALL REDUNDANCY COULD RESULT IN FALSELY FAILING THE CROSSFEED SYSTEM RESULTING IN LOSS OF MISSION. NASA WOULD BE RIGHT IF SENSORS CAN BE USED REDUNDANTLY TO TALKBACKS TO DETERMINE VALVE POSITION. BUT FLIGHT AND MALFUNCTION PROCS DO NOT MENTION THIS AND OMS FIRING SEQUENCER SOFTWARE DOES NOT USE THESE TALKBACKS.
SEE JSC 10588 PAGE 5-18, AND MALFUNCTION. PROCEDURE. RCS 103A.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-601
NASA FMEA #: 05-6L-2152-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 601
ITEM: INDICATOR, POSITION BARBERPOLE TALKBACK

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
WORST CASE IS VALVE DECLARED FAILED CLOSED AND REDUNDANT VALVE IS USED TO COMPLETE CROSSFEED. LOSS OF ALL REDUNDANCY COULD RESULT IN FALSELY FAILING THE CROSSFEED SYSTEM RESULTING IN LOSS OF MISSION. NASA WOULD BE RIGHT IF SENSORS CAN BE USED REDUNDANTLY TO TALKBACKS TO DETERMINE VALVE POSITION. BUT FLIGHT AND MALFUNCTION PROCS DO NOT MENTION THIS AND OMS FIRING SEQUENCER SOFTWARE DOES NOT USE THESE TALKBACKS.
SEE JSC 10588 PAGE 5-18, AND MALFUNCTION PROCEDURE RCS 103A.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-602
NASA FMEA #: 05-6L-2151-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 602
ITEM: INDICATOR, POSITION BARBERPOLE TALKBACK

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF ALL REDUNDANCY WOULD RESULT IN LOSS OF DIRECT VALVE TALKBACK TO CREW. WORST CASE WOULD BE FALSELY FAILING THE A OR B VALVE CLOSED RESULTING IN LOSS OF MISSION DUE TO SAFETY CONSIDERATIONS.
NASA WOULD BE RIGHT IF SENSORS CAN BE USED (REDUNDANTLY TO TALKBACKS) TO DETERMINE VALVE POSITION. BUT FLIGHT AND MALFUNCTION PROCS DO NOT MENTION THIS AND OMS FIRING SEQUENCER SOFTWARE DOES NOT USE THESE TALKBACKS. PHYSICALLY CANNOT DETERMINE VALVE CLOSURE VIA A PRESSURE SENSOR, EXCEPT DURING A BURN. JUST CLOSING A TANK ISOLATION VALVE WILL NOT CAUSE A PRESSURE DIFFERENCE JUST DOWNSTREAM (UNLESS BURNING OMS) SINCE THERE IS NO FLUID MOVEMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-603
NASA FMEA #: 05-6L-2151-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 603
ITEM: INDICATOR, POSITION BARBERPOLE TALKBACK

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF ALL REDUNDANCY WOULD RESULT IN LOSS OF DIRECT VALVE TALKBACK TO CREW. WORST CASE WOULD BE FALSELY FAILING THE A OR B VALVE CLOSED RESULTING IN LOSS OF MISSION DUE TO SAFETY CONSIDERATIONS.
NASA WOULD BE RIGHT IF SENSORS CAN BE USED (REDUNDANTLY TO TALKBACKS) TO DETERMINE VALVE POSITION. BUT FLIGHT AND MALFUNCTION PROCS DO NOT MENTION THIS AND OMS FIRING SEQUENCER SOFTWARE DOES NOT USE THESE TALKBACKS. PHYSICALLY CANNOT DETERMINE VALVE CLOSURE VIA A PRESSURE SENSOR, EXCEPT DURING A BURN. JUST CLOSING A TANK ISOLATION VALVE WILL NOT CAUSE A PRESSURE DIFFERENCE JUST DOWNSTREAM (UNLESS BURNING OMS) SINCE THERE IS NO FLUID MOVEMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-604
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 604
ITEM: METER, FRCS/OMS KIT PRESSURE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT NASA NOT DELETE THIS FMEA 05-6L-2157-1. THIS ITEM IS ASSOCIATED WITH THE FLIGHT-DEPENDENT KIT, BUT ALSO DISPLAYS FORWARD RCS AND OMS TANK PRESSURES WHICH ARE NOT FLIGHT-DEPENDENT. IOA ALSO RECOMMENDS A CRIT UPGRADE FROM NASA'S ORIGINAL 3/3 TO 3/2R, BECAUSE FALSE INDICATIONS OF OMS TANK PRESSURE GIVING AN APPEARANCE OF A LEAK COULD LEAD TO LOSS OF MISSION FOR SAFETY REASONS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-605
NASA FMEA #: 05-6L-2155-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 605
ITEM: METER, LT OMS/RCS PRESSURE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF ALL REDUNDANCY IN PRELAUNCH AND ONORBIT PHASES WOULD RESULT IN LEFT RCS HELIUM TANK BEING DECLARED FAILED RESULTING IN A LOSS OF DELTA VELOCITY AND LOSS OF MISSION CAPABILITY (SEE FLIGHT RULE 6-41), UNLESS SENSOR FAILURE IS DETERMINED. NASA WOULD BE RIGHT IF SENSORS CAN BE USED REDUNDANTLY TO TALKBACKS TO DETERMINE VALVE POSITION. BUT FLIGHT AND MALFUNCTION PROCS DO NOT MENTION THIS AND OMS FIRING SEQUENCER SOFTWARE DOES NOT USE THESE TALKBACKS. PHYSICALLY CANNOT DETERMINE VALVE CLOSURE VIA PRESSURE SENSOR, EXCEPT DURING A BURN. JUST CLOSING TANK ISOLATION VALVE WILL NOT CAUSE A PRESSURE DIFFERENCE JUST DOWNSTREAM (UNLESS BURNING OMS) SINCE NO FLUID MOVEMENT.
SEE FLIGHT RULE 6-41.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-606
NASA FMEA #: 05-6L-2158-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 606
ITEM: METER, RCS/OMS PROPELLANT QUANTITY GAUGE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-607
NASA FMEA #: 05-6L-2155-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 607
ITEM: METER, RT OMS/RCS PRESSURE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF ALL REDUNDANCY IN PRELAUNCH AND ONORBIT PHASES WOULD RESULT IN LEFT RCS HELIUM TANK BEING DECLARED FAILED RESULTING IN A LOSS OF DELTA VELOCITY AND LOSS OF MISSION CAPABILITY (SEE FLIGHT RULE 6-41), UNLESS SENSOR FAILURE IS DETERMINED. NASA WOULD BE RIGHT IF SENSORS CAN BE USED REDUNDANTLY TO TALKBACKS TO DETERMINE VALVE POSITION. BUT FLIGHT AND MALFUNCTION PROCS DO NOT MENTION THIS AND OMS FIRING SEQUENCER SOFTWARE DOES NOT USE THESE TALKBACKS. PHYSICALLY CANNOT DETERMINE VALVE CLOSURE VIA PRESSURE SENSOR, EXCEPT DURING A BURN. JUST CLOSING TANK ISOLATION VALVE WILL NOT CAUSE A PRESSURE DIFFERENCE JUST DOWNSTREAM (UNLESS BURNING OMS) SINCE NO FLUID MOVEMENT. SEE FLIGHT RULE 6-41.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-608
NASA FMEA #: 03-3-2801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 608
ITEM: SENSOR PRESSURE, OMS FUEL TANK ULLAGE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-609
NASA FMEA #: 03-3-2801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 609
ITEM: SENSOR PRESSURE, OX TANK ULLAGE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-610
NASA FMEA #: 03-3-2803-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 610
ITEM: SENSOR TEMPERATURE, FUEL TANK LOWER

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /2]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /2]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF MISSION WOULD OCCUR IN THE LIFTOFF PHASE. A TEMPERATURE SENSOR FAILURE COULD LEAD TO WRONGLY FAILING THE OMS FUEL PROPELLANT TANK LEADING TO THE ESTABLISHMENT OF A SHALLOW ATO BEFORE SENSOR FAILURE IS DETERMINED. NO REDUNDANCY AND MISSION LOSS IMPLIES A CRIT OF 2/2.
SEE JSC 20923 PCN-1 AND FLIGHT RULE 6-2 THEN 6-40K.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-611
NASA FMEA #: 03-3-2803-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 611
ITEM: SENSOR TEMPERATURE, OX LOWER TANK

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /2]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[2 /2]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF MISSION WOULD OCCUR IN THE LIFTOFF PHASE. A TEMPERATURE SENSOR FAILURE COULD LEAD TO WRONGLY FAILING THE OMS FUEL PROPELLANT TANK LEADING TO THE ESTABLISHMENT OF A SHALLOW ATO BEFORE SENSOR FAILURE IS DETERMINED. NO REDUNDANCY AND MISSION LOSS IMPLIES A CRIT OF 2/2.
SEE JSC 20923 PCN-1 AND FLIGHT RULE 6-2 THEN 6-40K.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-612
NASA FMEA #: 05-6L-2034-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 612
ITEM: SWITCH ROTARY, RCS/OMS PRESS

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA DOES, BUT NASA DOES NOT, IMPLY THAT CRT DISPLAYS AND MISSION CONTROL CENTER ARE REDUNDANT TO ITEM TO GET OMS RIGHT AND LEFT PROPELLANT ULLAGE, (AND RCS R/L/FWD PROP ULLAGE AND RCS R/L/FWD HE TANK PRESSURE) MEASUREMENTS. LOSS OF REDUNDANCY CAN RESULT IN LOSS OF MISSION FOR SAFETY REASONS SINCE THE ACTUAL STATUS OF THE SYSTEMS ARE UNAVAILABLE, IMPLYING A CRITICALITY OF 3/2R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-613
NASA FMEA #: 05-6L-2035-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 613
ITEM: SWITCH ROTARY, RCS/OMS PROPELLANT QUANTITY GAUGE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-614
NASA FMEA #: 05-6L-2261-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 614
ITEM: DIODE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-615
NASA FMEA #: 05-6L-2261-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 615
ITEM: DIODE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-616
NASA FMEA #: 05-6L-2261-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 616
ITEM: DIODE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-617
NASA FMEA #: 05-6L-2261-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 617
ITEM: DIODE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-618
NASA FMEA #: 05-6L-2261-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 618
ITEM: DIODE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-619
NASA FMEA #: 05-6L-2261-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 619
ITEM: DIODE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-620
NASA FMEA #: 05-6L-2261-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 620
ITEM: DIODE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-621
NASA FMEA #: 05-6L-2261-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 621
ITEM: DIODE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-622
NASA FMEA #: 05-6L-2209-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 622
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[F]	[P]	[X]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-623
NASA FMEA #: 05-6L-2209-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 623
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-624
NASA FMEA #: 05-6L-2209-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 624
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[F]	[P]	[X]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-625
NASA FMEA #: 05-6L-2209-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 625
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-626
NASA FMEA #: 05-6L-2207-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 626
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-627
NASA FMEA #: 05-6L-2207-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 627
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-628
NASA FMEA #: 05-6L-2207-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 628
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-629
NASA FMEA #: 05-6L-2207-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 629
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-630
NASA FMEA #: 05-6L-2207-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 630
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-631
NASA FMEA #: 05-6L-2207-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 631
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[F]	[P]	[X]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-632
NASA FMEA #: 05-6L-2206-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 632
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-633
NASA FMEA #: 05-6L-2206-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 633
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /1R]	[P]	[F]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FIRST FAILURE IS NO EFFECT, SO NOT DETECTABLE, EXCEPT FOR AN MDM VALVE POSITION SIGNAL. BUT SINCE FSSRS DID NOT MENTION THAT SIGNAL, IOA ASSUMED SOFTWARE DOES NOT USE IT TO DETECT VALVE STUCK OPEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-633
NASA FMEA #: 05-6L-2086-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 663
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-634
NASA FMEA #: 05-6L-2207-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 634
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-635
NASA FMEA #: 05-6L-2207-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 635
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-636
NASA FMEA #: 05-6L-2207-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 636
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-637
NASA FMEA #: 05-6L-2207-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 637
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-638
NASA FMEA #: 05-6L-2207-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 638
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-639
NASA FMEA #: 05-6L-2207-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 639
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[F]	[P]	[X]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-640
NASA FMEA #: 05-6L-2206-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 640
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-641
NASA FMEA #: 05-6L-2206-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 641
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /1R] [P] [F] [P] [A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FIRST FAILURE IS NO EFFECT, SO NOT DETECTABLE, EXCEPT FOR AN MDM VALVE POSITION SIGNAL. BUT SINCE FSSRS DID NOT MENTION THAT SIGNAL, IOA ASSUMED SOFTWARE DOES NOT USE IT TO DETECT VALVE STUCK OPEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-642
NASA FMEA #: 05-6L-2208-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 642
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-643
NASA FMEA #: 05-6L-2208-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 643
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-644
NASA FMEA #: 05-6L-2007-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 644
ITEM: FUSE, 1A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-645
NASA FMEA #: 05-6L-2006-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 645
ITEM: FUSE, 1A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-646
NASA FMEA #: 05-6L-2007-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 646
ITEM: FUSE, 1A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-647
NASA FMEA #: 05-6L-2006-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 647
ITEM: FUSE, 1A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-648
NASA FMEA #: 05-6L-2015-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 648
ITEM: FUSE, 3A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-649
NASA FMEA #: 05-6L-2015-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 649
ITEM: FUSE, 3A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-650
NASA FMEA #: 05-6L-2015-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 650
ITEM: FUSE, 3A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-651
NASA FMEA #: 05-6L-2015-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 651
ITEM: FUSE, 3A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-652
NASA FMEA #: 05-6L-2087-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 652
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-653
NASA FMEA #: 05-6L-2087-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 653
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-654
NASA FMEA #: 05-6L-2087-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 654
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-655
NASA FMEA #: 05-6L-2087-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 655
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-656
NASA FMEA #: 05-6L-2087-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 656
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-657
NASA FMEA #: 05-6L-2087-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 657
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-658
NASA FMEA #: 05-6L-2086-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 658
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-659
NASA FMEA #: 05-6L-2086-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 659
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-660
NASA FMEA #: 05-6L-2109-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 660
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-661
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 661
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-662
NASA FMEA #: 05-6L-2086-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 662
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-664
NASA FMEA #: 05-6L-2086-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 664
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-665
NASA FMEA #: 05-6L-2086-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 665
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-666
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 666
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-667
NASA FMEA #: 05-6L-2086-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 667
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-668
NASA FMEA #: 05-6L-2086-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 668
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-669
NASA FMEA #: 05-6L-2109-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 669
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-670
NASA FMEA #: 05-6L-2086-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 670
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-671
NASA FMEA #: 05-6L-2086-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 671
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-672
NASA FMEA #: 05-6L-2029-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 672
ITEM: SWITCH, OMS LT/RT ENGINE ARM/PRESS (C3A1, S1/S2)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[?]	[?]	[?]	[ ] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /1R]	[P]	[F]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS FAILING THE B SCREEN, AND THUS UPGRADING TO A CIL, SINCE THIS FAILURE IS NOT DETECTABLE EXCEPT DURING AN OMS BURN, WHICH COULD BE TOO LATE. IOA ALSO RECOMMENDS CONSIDERING BOTH CONTACT SETS IN THE FAILURE MODE. IOA CONCURS WITH NASA'S CRITICALITY, SINCE IT AGREES INDIRECTLY WITH OMS HARDWARE FMEA 03-3-4001-1. THIS NASA FMEA'S REDUNDANCY SCREENS WERE MISSING FROM THE LATEST AVAILABLE NASA REPORT. SINCE THIS FMEA DID NOT APPEAR IN NASA'S NEW CIL PACKAGE, IOA ASSUMES THAT NASA PASSED ALL OF THE SCREENS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-673
NASA FMEA #: 05-6L-2029-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 673
ITEM: SWITCH, OMS LT/RT ENGINE ARM/PRESS (C3A1, S1/S2)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[?]	[?]	[?]	[ ] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /1R]	[P]	[F]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS FAILING THE B SCREEN, AND THUS UPGRADING TO A CIL, SINCE THIS FAILURE IS NOT DETECTABLE EXCEPT DURING AN OMS BURN, WHICH COULD BE TOO LATE. IOA ALSO RECOMMENDS CONSIDERING BOTH CONTACT SETS IN THE FAILURE MODE. IOA CONCURS WITH NASA'S CRITICALITY, SINCE IT AGREES INDIRECTLY WITH OMS HARDWARE FMEA 03-3-4001-1. THIS NASA FMEA'S REDUNDANCY SCREENS WERE MISSING FROM THE LATEST AVAILABLE NASA REPORT. SINCE THIS FMEA DID NOT APPEAR IN NASA'S NEW CIL PACKAGE, IOA ASSUMES THAT NASA PASSED ALL OF THE SCREENS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-674
NASA FMEA #: 05-6L-2029-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 674
ITEM: SWITCH, OMS LT/RT ENGINE ARM/PRESS (C3A1, S1/S2)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-675
NASA FMEA #: 05-6L-2030-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 675
ITEM: SWITCH, OMS LT/RT ENGINE CONTROL VLV

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-676
NASA FMEA #: 05-6L-2030-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 676
ITEM: SWITCH, OMS LT/RT ENGINE CONTROL VLV

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /2R]	[P]	[F]	[P]	[X]
COMPARE	[/N]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /1R]	[P]	[F]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS FAILING THE B SCREEN AND CONSIDERING BOTH POLES IN THE FAILURE MODE. NASA FAILED ONLY ONE POLE, CONSIDERING THE OTHER POLE AS REDUNDANT, WHEREAS IOA CONSIDERED THE WORST CASE FAILURE MODE BY FAILING A PART COMMON TO BOTH POLES (E.G. TOGGLE LEVER). NASA CONSIDERED ONE POLE TO BE STANDBY REDUNDANT TO THE OTHER AND SO HAD "NOT APPLICABLE" FOR B SCREEN. IOA BELIEVES FAILURE OF BOTH POLES WOULD NOT BE READILY DETECTABLE UNTIL IT IS TOO LATE. IOA CONCURS WITH NASA'S CRITICALITY, SINCE NASA'S CRIT AGREES INDIRECTLY WITH OMS HARDWARE FMEA 03-3-4001-1.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-677
NASA FMEA #: 05-6L-2177-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 677
ITEM: CONTROLLER, REMOTE POWER

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-678
NASA FMEA #: 05-6L-2177-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 678
ITEM: CONTROLLER, REMOTE POWER

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-679
NASA FMEA #: 05-6L-2177-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 679
ITEM: CONTROLLER, REMOTE POWER

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-680
NASA FMEA #: 05-6L-2177-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 680
ITEM: CONTROLLER, REMOTE POWER

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-681
NASA FMEA #: 05-6L-2177-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 681
ITEM: CONTROLLER, REMOTE POWER

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-682
NASA FMEA #: 05-6L-2177-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 682
ITEM: CONTROLLER, REMOTE POWER

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-683
NASA FMEA #: 05-6L-2177-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 683
ITEM: CONTROLLER, REMOTE POWER

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-684
NASA FMEA #: 05-6L-2177-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 684
ITEM: CONTROLLER, REMOTE POWER

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-685
NASA FMEA #: 05-6L-2008-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 685
ITEM: FUSE, 3A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /1R]	[P]	[NA]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS SPLITTING THIS FMEA INTO TWO FMEAS, SINCE THE FUSE IN THE STANDBY CIRCUIT IS STANDBY REDUNDANT TO THE FUSE IN THE ACTIVE CIRCUIT, AND THEREFORE THEIR B SCREENS WILL DIFFER ("NA" AND "P").

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-686
NASA FMEA #: 05-6L-2008-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 686
ITEM: FUSE, 3A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /1R]	[P]	[NA]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS SPLITTING THIS FMEA INTO TWO FMEAS, SINCE THE FUSE IN THE STANDBY CIRCUIT IS STANDBY REDUNDANT TO THE FUSE IN THE ACTIVE CIRCUIT, AND THEREFORE THEIR B SCREENS WILL DIFFER ("NA" AND "P").

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-687
NASA FMEA #: 03-3-4581-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 687
ITEM: SENSOR PRESSURE, OMS ENGINE PNEUMATIC PRESSURE NO.1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IF LOSE ALL REDUNDANCY, THE REAL STATUS OF THE OMS ENGINE GASEOUS NITROGEN TANK WILL BE UNAVAILABLE OR FALSELY INDICATED (LOSS OF N2) AND CAN RESULT IN FALSELY FAILING TWO OMS GN2 TANKS LEAKING OR FAILED, THEREFORE MISSION CAPABILITIES LOST OR ATO COULD BE CALLED, IMPLYING CRIT 3/2R.
SEE FLIGHT RULE 6-40.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-688
NASA FMEA #: 03-3-4581-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 688
ITEM: SENSOR PRESSURE, OMS ENGINE PNEUMATIC PRESSURE NO.2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IF LOSE ALL REDUNDANCY, THE REAL STATUS OF THE OMS ENGINE GASEOUS NITROGEN TANK WILL BE UNAVAILABLE OR FALSELY INDICATED (LOSS OF N2) AND CAN RESULT IN FALSELY FAILING TWO OMS GN2 TANKS LEAKING OR FAILED, THEREFORE MISSION CAPABILITIES LOST OR ATO COULD BE CALLED, IMPLYING CRIT 3/2R.
SEE FLIGHT RULE 6-40.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-689
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 689
ITEM: SENSOR PRESSURE, OMS ENGINE REG OUT

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /2]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[2 /2]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS GENERATING A FMEA FOR THIS ITEM. NASA HAS NO APPARENT FMEA TO EXPLICITLY COVER THIS ITEM. THE CLOSEST NASA FMEA IS 03-3-4581-1 FOR "OMS ENGINE PNEUMATIC PRESSURE SENSOR" INSTEAD OF "OMS ENGINE REGULATOR OUTLET PRESSURE SENSOR".

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-690
NASA FMEA #: 05-6L-2014-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 690
ITEM: FUSE, 3A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-691
NASA FMEA #: 05-6L-2014-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 691
ITEM: FUSE, 3A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-692
NASA FMEA #: 05-6L-2154-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 692
ITEM: METER, RT/LT OME PRESSURE PC

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-693
NASA FMEA #: 03-3-4081-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 693
ITEM: SENSOR POSITION, BI-PROPELLANT VALVE 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FALSE INDICATION OF VALVE POSITION COULD LEAD TO LIMITING OMS ENGINE USE, ESPECIALLY WHEN LITTLE TIME TO VERIFY. THE ENGINE WILL BE USED ONLY IF THE OTHER ENGINE HAS FAILED AND THEN ONLY FOR DEORBIT BURN. LOSS OF ALL REDUNDANCY DURING LIFTOFF OR ONORBIT PHASE WOULD LEAD TO FAILURE TO REACH DESIRED ALTITUDE (LIMIT ALTITUDE TO RCS REDLINES TO ENSURE DEORBIT CAPABILITY) SO COULD LOSE SOME ALTITUDE-SENSITIVE MISSIONS, IMPLYING CRIT 3/2R. NASA REVIEW COMMENT'S ACTION ITEM PARTIALLY SUPPORTS THIS:"WILL USE ENGINE IF LVDT > 70%. BETWEEN 8 AND 70% WILL NOT USE ENGINE UNLESS NO OTHER OPTION AVAILABLE FOR DEORBIT."
SEE OMS TRAINING MANUAL 2102 PAGE 79.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88 NASA DATA:
ASSESSMENT ID: OMS-694 BASELINE [ ]
NASA FMEA #: 03-3-4081-1 NEW [X]

SUBSYSTEM: OMS
MDAC ID: 694
ITEM: SENSOR POSITION, BI-PROPELLANT VALVE 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FALSE INDICATION OF VALVE POSITION COULD LEAD TO LIMITING OMS ENGINE USE, ESPECIALLY WHEN LITTLE TIME TO VERIFY. THE ENGINE WILL BE USED ONLY IF THE OTHER ENGINE HAS FAILED AND THEN ONLY FOR DEORBIT BURN. LOSS OF ALL REDUNDANCY DURING LIFTOFF OR ONORBIT PHASE WOULD LEAD TO FAILURE TO REACH DESIRED ALTITUDE (LIMIT ALTITUDE TO RCS REDLINES TO ENSURE DEORBIT CAPABILITY) SO COULD LOSE SOME ALTITUDE-SENSITIVE MISSIONS, IMPLYING CRIT 3/2R. NASA REVIEW COMMENT'S ACTION ITEM PARTIALLY SUPPORTS THIS:"WILL USE ENGINE IF LVDT > 70%. BETWEEN 8 AND 70% WILL NOT USE ENGINE UNLESS NO OTHER OPTION AVAILABLE FOR DEORBIT."
SEE OMS TRAINING MANUAL 2102 PAGE 79.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-695
NASA FMEA #: 03-3-4805-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 695
ITEM: SENSOR PRESSURE, OMS ENGINE CHAMBER

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-696
NASA FMEA #: 03-3-4803-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 696
ITEM: SENSOR PRESSURE, OMS ENGINE FUEL INLET PRESS

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-697
NASA FMEA #: 03-3-4803-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 697
ITEM: SENSOR PRESSURE, OMS ENGINE OX INLET PRESS

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-698
NASA FMEA #: 03-3-4802-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 698
ITEM: SENSOR TEMPERATURE ENGINE FUEL FEED LINE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS UPGRADING AND ADDING THIS FMEA TO THE CIL LIST BECAUSE OF AN ABORT CRIT 1/1. THE ASSOCIATED ENGINE TEMPERATURES OUTSIDE THE DESIRED LIMITS (<25 F OR >130 F), UNLESS SENSOR FAILURE WAS DETERMINED. FAILURE OF ALL REDUNDANCY (THE OTHER OMS ENGINE'S SENSOR FAILED) COULD LEAD TO INCORRECTLY FAILING BOTH OMS ENGINES AND POSSIBLE EARLY MISSION TERMINATION AND LOSS OF MISSION. HOWEVER, THIS IS AN ESPECIALLY SERIOUS CRITICALITY 1/1 DURING ABORTS BECAUSE OF INSUFFICIENT TIME TO DETERMINE FAILURE. SEE JSC 20923 PCN-1 RULE 6-3.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-699
NASA FMEA #: 03-3-4804-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 699
ITEM: SENSOR TEMPERATURE, ENGINE FUEL INJECTOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-700
NASA FMEA #: 03-3-4802-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 700
ITEM: SENSOR TEMPERATURE, ENGINE OX VALVE

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-701
NASA FMEA #: 03-3-4801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 701
ITEM: SENSOR TEMPERATURE, OX ENGINE INLET

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-702
NASA FMEA #: 03-3-6407-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 702
ITEM: SENSOR POSITION, ACTIVE PITCH ACTUATOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-703
NASA FMEA #: 03-3-6407-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 703
ITEM: SENSOR POSITION, ACTIVE YAW ACTUATOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-704
NASA FMEA #: 03-3-6407-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 704
ITEM: SENSOR POSITION, STANDBY PITCH ACTUATOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-705
NASA FMEA #: 03-3-6407-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 705
ITEM: SENSOR POSITION, STANDBY YAW ACTUATOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-706
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 706
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-707
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 707
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-708
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 708
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-709
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 709
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-710
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 710
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-711
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 711
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-712
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 712
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-713
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 713
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-714
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 714
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-715
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 715
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

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APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-716
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 716
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-717
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 717
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-718
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 718
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-719
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 719
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-720
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 720
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-721
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 721
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-722
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 722
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-723
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 723
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-724
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 724
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-725
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 725
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-726
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 726
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-727
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 727
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-728
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 728
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-729
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 729
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-730
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 730
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-731
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 731
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-732
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 732
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-733
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 733
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-734
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 734
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-735
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 735
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-736
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 736
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-737
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 737
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-738
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 738
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-739
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 739
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-740
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 740
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-741
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 741
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-742
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 742
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-743
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 743
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-744
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 744
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-745
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 745
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-746
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 746
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-747
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 747
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-748
NASA FMEA #: 05-6L-2210-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 748
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-749
NASA FMEA #: 05-6L-2210-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 749
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-750
NASA FMEA #: 05-6L-2016-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 750
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-751
NASA FMEA #: 05-6L-2016-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 751
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-752
NASA FMEA #: 05-6L-2016-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 752
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-753
NASA FMEA #: 05-6L-2016-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 753
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-754
NASA FMEA #: 05-6L-2016-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 754
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-755
NASA FMEA #: 05-6L-2016-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 755
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-756
NASA FMEA #: 05-6L-2016-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 756
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-757
NASA FMEA #: 05-6L-2016-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 757
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-758
NASA FMEA #: 05-6L-2016-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 758
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-759
NASA FMEA #: 05-6L-2016-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 759
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-760
NASA FMEA #: 05-6L-2016-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 760
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-761
NASA FMEA #: 05-6L-2016-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 761
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-762
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 762
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-763
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 763
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-764
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 764
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-765
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 765
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-766
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 766
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-767
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 767
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-768
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 768
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-769
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 769
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-770
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 770
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-771
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 771
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-772
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 772
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-773
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 773
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-774
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 774
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-775
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 775
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-776
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 776
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-777
NASA FMEA #: 05-6L-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 777
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-778
NASA FMEA #: 05-6L-2009-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 778
ITEM: FUSE, 3A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-779
NASA FMEA #: 05-6L-2009-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 779
ITEM: FUSE, 3A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-780
NASA FMEA #: 05-6L-2009-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 780
ITEM: FUSE, 3A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-781
NASA FMEA #: 05-6L-2009-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 781
ITEM: FUSE, 3A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-782
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 782
ITEM: HEATER, LT/RT ENGINE SERVICE PANEL GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-783
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 783
ITEM: HEATER, LT/RT ENGINE SERVICE PANEL GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-784
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 784
ITEM: HEATER, LT/RT ENGINE SERVICE PANEL GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-785
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 785
ITEM: HEATER, LT/RT ENGINE SERVICE PANEL GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-786
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 786
ITEM: HEATER, LT/RT GSE SERVICE PANEL GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-787
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 787
ITEM: HEATER, LT/RT GSE SERVICE PANEL GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-788
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 788
ITEM: HEATER, LT/RT GSE SERVICE PANEL GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-789
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 789
ITEM: HEATER, LT/RT GSE SERVICE PANEL GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-790
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 790
ITEM: HEATER, LT/RT LOWER INBOARD Y WEB GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-791
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 791
ITEM: HEATER, LT/RT LOWER INBOARD Y WEB GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-792
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 792
ITEM: HEATER, LT/RT LOWER INBOARD Y WEB GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-793
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 793
ITEM: HEATER, LT/RT LOWER INBOARD Y WEB GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-794
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 794
ITEM: HEATER, LT/RT OME COMPARTMENT GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-795
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 795
ITEM: HEATER, LT/RT OME COMPARTMENT GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-796
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 796
ITEM: HEATER, LT/RT OME COMPARTMENT GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-797
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 797
ITEM: HEATER, LT/RT OME COMPARTMENT GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-798
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 798
ITEM: HEATER, LT/RT OME OUTBOARD & INBOARD COVER GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-799
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 799
ITEM: HEATER, LT/RT OME OUTBOARD & INBOARD COVER GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-800
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 800
ITEM: HEATER, LT/RT OME OUTBOARD & INBOARD COVER GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-801
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 801
ITEM: HEATER, LT/RT OME OUTBOARD & INBOARD COVER GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-802
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 802
ITEM: HEATER, LT/RT OMS ENGINE COMPARTMENT GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-803
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 803
ITEM: HEATER, LT/RT OMS ENGINE COMPARTMENT GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-804
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 804
ITEM: HEATER, LT/RT OMS ENGINE COMPARTMENT GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-805
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 805
ITEM: HEATER, LT/RT OMS ENGINE COMPARTMENT GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-806
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 806
ITEM: HEATER, LT/RT OMS KEEL WEB GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-807
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 807
ITEM: HEATER, LT/RT OMS KEEL WEB GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-808
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 808
ITEM: HEATER, LT/RT OMS KEEL WEB GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-809
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 809
ITEM: HEATER, LT/RT OMS KEEL WEB GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-810
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 810
ITEM: HEATER, LT/RT OMS TEST PORT GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-811
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 811
ITEM: HEATER, LT/RT OMS TEST PORT GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-812
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 812
ITEM: HEATER, LT/RT OMS TEST PORT GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-813
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 813
ITEM: HEATER, LT/RT OMS TEST PORT GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-814
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 814
ITEM: HEATER, LT/RT OX PRESS PANEL GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-815
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 815
ITEM: HEATER, LT/RT OX PRESS PANEL GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-816
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 816
ITEM: HEATER, LT/RT OX PRESS PANEL GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-817
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 817
ITEM: HEATER, LT/RT OX PRESS PANEL GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-818
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 818
ITEM: HEATER, LT/RT RCS HOUSING DRAIN PANEL GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-819
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 819
ITEM: HEATER, LT/RT RCS HOUSING DRAIN PANEL GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-820
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 820
ITEM: HEATER, LT/RT RCS HOUSING DRAIN PANEL GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-821
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 821
ITEM: HEATER, LT/RT RCS HOUSING DRAIN PANEL GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-822
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 822
ITEM: HEATER, LT/RT RCS HOUSING PITCH DOWN GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-823
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 823
ITEM: HEATER, LT/RT RCS HOUSING PITCH DOWN GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-824
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 824
ITEM: HEATER, LT/RT RCS HOUSING PITCH DOWN GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-825
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 825
ITEM: HEATER, LT/RT RCS HOUSING PITCH DOWN GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-826
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 826
ITEM: HEATER, LT/RT RCS HOUSING PITCH UP GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-827
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 827
ITEM: HEATER, LT/RT RCS HOUSING PITCH UP GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-828
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 828
ITEM: HEATER, LT/RT RCS HOUSING PITCH UP GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-829
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 829
ITEM: HEATER, LT/RT RCS HOUSING PITCH UP GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-830
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 830
ITEM: HEATER, LT/RT RCS HOUSING VERNIER GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-831
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 831
ITEM: HEATER, LT/RT RCS HOUSING VERNIER GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-832
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 832
ITEM: HEATER, LT/RT RCS HOUSING VERNIER GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-833
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 833
ITEM: HEATER, LT/RT RCS HOUSING VERNIER GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-834
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 834
ITEM: HEATER, LT/RT RCS HOUSING YAW GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-835
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 835
ITEM: HEATER, LT/RT RCS HOUSING YAW GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-836
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 836
ITEM: HEATER, LT/RT RCS HOUSING YAW GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-837
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 837
ITEM: HEATER, LT/RT RCS HOUSING YAW GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-838
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 838
ITEM: HEATER, LT/RT UPPER INBOARD Y WEB GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-839
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 839
ITEM: HEATER, LT/RT UPPER INBOARD Y WEB GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-840
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 840
ITEM: HEATER, LT/RT UPPER INBOARD Y WEB GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-841
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 841
ITEM: HEATER, LT/RT UPPER INBOARD Y WEB GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-842
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 842
ITEM: HEATER, LT/RT UPPER OUTBOARD Y WEB GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-843
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 843
ITEM: HEATER, LT/RT UPPER OUTBOARD Y WEB GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-844
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 844
ITEM: HEATER, LT/RT UPPER OUTBOARD Y WEB GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-845
NASA FMEA #: 03-3-7001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 845
ITEM: HEATER, LT/RT UPPER OUTBOARD Y WEB GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-846
NASA FMEA #: 05-6L-2134-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 846
ITEM: RELAY

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[F]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-847
NASA FMEA #: 05-6L-2134-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 847
ITEM: RELAY

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-848
NASA FMEA #: 05-6L-2134-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 848
ITEM: RELAY

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[F]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-849
NASA FMEA #: 05-6L-2134-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 849
ITEM: RELAY

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-850
NASA FMEA #: 05-6L-2134-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 850
ITEM: RELAY

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[F]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-851
NASA FMEA #: 05-6L-2134-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 851
ITEM: RELAY

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-852
NASA FMEA #: 05-6L-2134-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 852
ITEM: RELAY

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[F]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE (CRIT 3 - ALTERNATIVE ACTION AND TIME TO ABORT AFTER SECOND FAILURE). NOT DETECTABLE UNLESS MULTIPLE HEATERS FAILED ON." SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-853
NASA FMEA #: 05-6L-2134-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 853
ITEM: RELAY

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-854
NASA FMEA #: 05-6L-2089-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 854
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-855
NASA FMEA #: 05-6L-2089-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 855
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-856
NASA FMEA #: 05-6L-2089-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 856
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-857
NASA FMEA #: 05-6L-2089-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 857
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-858
NASA FMEA #: 05-6L-2089-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 858
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-859
NASA FMEA #: 05-6L-2089-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 859
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-860
NASA FMEA #: 05-6L-2089-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 860
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-861
NASA FMEA #: 05-6L-2089-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 861
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-862
NASA FMEA #: 05-6L-2089-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 862
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-863
NASA FMEA #: 05-6L-2089-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 863
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-864
NASA FMEA #: 05-6L-2089-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 864
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-865
NASA FMEA #: 05-6L-2089-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 865
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-866
NASA FMEA #: 05-6L-2089-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 866
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-867
NASA FMEA #: 05-6L-2089-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 867
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-868
NASA FMEA #: 05-6L-2089-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 868
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-869
NASA FMEA #: 05-6L-2089-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 869
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-870
NASA FMEA #: 05-6L-2089-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 870
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-871
NASA FMEA #: 05-6L-2089-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 871
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-872
NASA FMEA #: 05-6L-2089-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 872
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-873
NASA FMEA #: 05-6L-2089-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 873
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-874
NASA FMEA #: 05-6L-2089-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 874
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-875
NASA FMEA #: 05-6L-2089-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 875
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-876
NASA FMEA #: 05-6L-2089-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 876
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-877
NASA FMEA #: 05-6L-2089-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 877
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-878
NASA FMEA #: 05-6L-2088-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 878
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-879
NASA FMEA #: 05-6L-2088-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 879
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-880
NASA FMEA #: 05-6L-2088-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 880
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-881
NASA FMEA #: 05-6L-2088-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 881
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-882
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 882
ITEM: SENSOR TEMPERATURE, COVER THERMO. TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS GENERATING A FMEA FOR THIS ITEM, POSSIBLY GROUPED WITH OTHER POD TEMP SENSORS. NASA HAS NO APPARENT FMEA TO EXPLICITLY COVER THESE ITEMS. THE CLOSEST FMEA IS 03-3-2804-1 FOR CROSSFEED INSTEAD OF POD TEMPERATURE SENSORS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-883
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 883
ITEM: SENSOR TEMPERATURE, ENGINE SERVICE PANEL

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS GENERATING A FMEA FOR THIS ITEM, POSSIBLY GROUPED WITH OTHER POD TEMP SENSORS. NASA HAS NO APPARENT FMEA TO EXPLICITLY COVER THESE ITEMS. THE CLOSEST FMEA IS 03-3-2804-1 FOR CROSSFEED INSTEAD OF POD TEMPERATURE SENSORS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-884
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 884
ITEM: SENSOR TEMPERATURE, GSE SERVICE PANEL

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS GENERATING A FMEA FOR THIS ITEM, POSSIBLY GROUPED WITH OTHER POD TEMP SENSORS. NASA HAS NO APPARENT FMEA TO EXPLICITLY COVER THESE ITEMS. THE CLOSEST FMEA IS 03-3-2804-1 FOR CROSSFEED INSTEAD OF POD TEMPERATURE SENSORS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-885
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 885
ITEM: SENSOR TEMPERATURE, LEFT/RIGHT SKIN TEMP 38

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[3 /3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS GENERATING A FMEA FOR THIS ITEM, POSSIBLY GROUPED WITH OTHER POD TEMP SENSORS. NASA HAS NO APPARENT FMEA TO EXPLICITLY COVER THESE ITEMS. THE CLOSEST FMEA IS 03-3-2804-1 FOR CROSSFEED INSTEAD OF POD TEMPERATURE SENSORS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-886
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 886
ITEM: SENSOR TEMPERATURE, OMS ENGINE COMPT B.H.S. (POD BASE)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[3 /3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS GENERATING A FMEA FOR THIS ITEM, POSSIBLY GROUPED WITH OTHER POD TEMP SENSORS. NASA HAS NO APPARENT FMEA TO EXPLICITLY COVER THESE ITEMS. THE CLOSEST FMEA IS 03-3-2804-1 FOR CROSSFEED INSTEAD OF POD TEMPERATURE SENSORS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-887
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 887
ITEM: SENSOR TEMPERATURE, OX DRAIN PANEL TEMP 1 & TEMP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS GENERATING A FMEA FOR THIS ITEM, POSSIBLY GROUPED WITH OTHER POD TEMP SENSORS. NASA HAS NO APPARENT FMEA TO EXPLICITLY COVER THESE ITEMS. THE CLOSEST FMEA IS 03-3-2804-1 FOR CROSSFEED INSTEAD OF POD TEMPERATURE SENSORS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-888
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 888
ITEM: SENSOR TEMPERATURE, RCS HOUSING VERNIER
COMPARTMENT TEMP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS GENERATING A FMEA FOR THIS ITEM, POSSIBLY GROUPED WITH OTHER POD TEMP SENSORS. NASA HAS NO APPARENT FMEA TO EXPLICITLY COVER THESE ITEMS. THE CLOSEST FMEA IS 03-3-2804-1 FOR CROSSFEED INSTEAD OF POD TEMPERATURE SENSORS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-889
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 889
ITEM: SENSOR TEMPERATURE, RCS HOUSING VERNIER
COMPARTMENT TEMP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS GENERATING A FMEA FOR THIS ITEM, POSSIBLY GROUPED WITH OTHER POD TEMP SENSORS. NASA HAS NO APPARENT FMEA TO EXPLICITLY COVER THESE ITEMS. THE CLOSEST FMEA IS 03-3-2804-1 FOR CROSSFEED INSTEAD OF POD TEMPERATURE SENSORS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-890
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 890
ITEM: SENSOR TEMPERATURE, RCS PRESS PANEL SPRT TEMP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS GENERATING A FMEA FOR THIS ITEM, POSSIBLY GROUPED WITH OTHER POD TEMP SENSORS. NASA HAS NO APPARENT FMEA TO EXPLICITLY COVER THESE ITEMS. THE CLOSEST FMEA IS 03-3-2804-1 FOR CROSSFEED INSTEAD OF POD TEMPERATURE SENSORS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-891
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 891
ITEM: SENSOR TEMPERATURE, RCS PRESS PANEL SPRT TEMP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[3 /3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS GENERATING A FMEA FOR THIS ITEM, POSSIBLY GROUPED WITH OTHER POD TEMP SENSORS. NASA HAS NO APPARENT FMEA TO EXPLICITLY COVER THESE ITEMS. THE CLOSEST FMEA IS 03-3-2804-1 FOR CROSSFEED INSTEAD OF POD TEMPERATURE SENSORS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-892
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 892
ITEM: SENSOR TEMPERATURE, UPPER Y-WEB INBOARD

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS GENERATING A FMEA FOR THIS ITEM, POSSIBLY GROUPED WITH OTHER POD TEMP SENSORS. NASA HAS NO APPARENT FMEA TO EXPLICITLY COVER THESE ITEMS. THE CLOSEST FMEA IS 03-3-2804-1 FOR CROSSFEED INSTEAD OF POD TEMPERATURE SENSORS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-893
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 893
ITEM: SENSOR TEMPERATURE, UPPER Y-WEB OUTBOARD

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS GENERATING A FMEA FOR THIS ITEM, POSSIBLY GROUPED WITH OTHER POD TEMP SENSORS. NASA HAS NO APPARENT FMEA TO EXPLICITLY COVER THESE ITEMS. THE CLOSEST FMEA IS 03-3-2804-1 FOR CROSSFEED INSTEAD OF POD TEMPERATURE SENSORS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-894
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 894
ITEM: THERMAL SWITCH, LT/RT GSE SERVICE PANEL GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-895
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 895
ITEM: THERMAL SWITCH, LT/RT GSE SERVICE PANEL GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE."
IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-896
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 896
ITEM: THERMAL SWITCH, LT/RT GSE SERVICE PANEL GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-897
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 897
ITEM: THERMAL SWITCH, LT/RT GSE SERVICE PANEL GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE."
IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-898
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 898
ITEM: THERMAL SWITCH, LT/RT KEEL WEB HEATER SYSTEM GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-899
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 899
ITEM: THERMAL SWITCH, LT/RT KEEL WEB HEATER SYSTEM GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE."
IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-900
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 900
ITEM: THERMAL SWITCH, LT/RT KEEL WEB HEATER SYSTEM GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-901
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 901
ITEM: THERMAL SWITCH, LT/RT KEEL WEB HEATER SYSTEM GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE."
IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-902
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 902
ITEM: THERMAL SWITCH, LT/RT LOWER INBOARD Y WEB GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-903
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 903
ITEM: THERMAL SWITCH, LT/RT LOWER INBOARD Y WEB GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE."
IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-904
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 904
ITEM: THERMAL SWITCH, LT/RT LOWER INBOARD Y WEB GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-905
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 905
ITEM: THERMAL SWITCH, LT/RT LOWER INBOARD Y WEB GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE."
IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-906
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 906
ITEM: THERMAL SWITCH, LT/RT OME COMPARTMENT GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-907
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 907
ITEM: THERMAL SWITCH, LT/RT OME COMPARTMENT GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE."
IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88 NASA DATA:
ASSESSMENT ID: OMS-908 BASELINE [ ]
NASA FMEA #: 03-3-7002-1 NEW [X]

SUBSYSTEM: OMS
MDAC ID: 908
ITEM: THERMAL SWITCH, LT/RT OME COMPARTMENT GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-909
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 909
ITEM: THERMAL SWITCH, LT/RT OME COMPARTMENT GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE."
IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

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APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-910
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 910
ITEM: THERMAL SWITCH, LT/RT OME COVER GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-911
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 911
ITEM: THERMAL SWITCH, LT/RT OME COVER GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE."
IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-912
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 912
ITEM: THERMAL SWITCH, LT/RT OME COVER GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-913
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 913
ITEM: THERMAL SWITCH, LT/RT OME COVER GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE."
IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-914
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 914
ITEM: THERMAL SWITCH, LT/RT RCS HOUSING GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-915
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 915
ITEM: THERMAL SWITCH, LT/RT RCS HOUSING GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE."
IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-916
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 916
ITEM: THERMAL SWITCH, LT/RT RCS HOUSING GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-917
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 917
ITEM: THERMAL SWITCH, LT/RT RCS HOUSING GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE."
IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88 NASA DATA:
ASSESSMENT ID: OMS-918 BASELINE [ ]
NASA FMEA #: 03-3-7002-1 NEW [X]

SUBSYSTEM: OMS
MDAC ID: 918
ITEM: THERMAL SWITCH, LT/RT UPPER INBOARD Y-WEB GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-919
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 919
ITEM: THERMAL SWITCH, LT/RT UPPER INBOARD Y-WEB GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE."
IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-920
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 920
ITEM: THERMAL SWITCH, LT/RT UPPER INBOARD Y-WEB GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-921
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 921
ITEM: THERMAL SWITCH, LT/RT UPPER INBOARD Y-WEB GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE."
IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-922
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 922
ITEM: THERMAL SWITCH, LT/RT UPPER OUTBOARD Y WEB GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-923
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 923
ITEM: THERMAL SWITCH, LT/RT UPPER OUTBOARD Y WEB GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE."
IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-924
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 924
ITEM: THERMAL SWITCH, LT/RT UPPER OUTBOARD Y WEB GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-925
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 925
ITEM: THERMAL SWITCH, LT/RT UPPER OUTBOARD Y WEB GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS RAISING THIS CRITICALITY TO 2/1R SINCE THIS FAILURE IS ONE FAILURE AWAY FROM LOSS OF CREW/VEHICLE, AND DAMAGE MAY OCCUR BEFORE IT IS DETECTED. FIRST FAILURE RESULTS IN THE ASSOCIATED HEATER SET FAILED ON. A SECOND FAILURE IN THE SAME HEATER GROUP WOULD RESULT IN BOTH ELEMENTS OF TWO OR MORE HEATERS ON SIMULTANEOUSLY WHEN THE REDUNDANT HEATER GROUP IS ACTIVE. THIS RESULTS IN A TEMPERATURE EXCEEDING THE POD STRUCTURAL QUALIFIED LIMIT OF 425F IN APPROXIMATELY TWO MINUTES AND POSSIBLE LOSS OF CREW/VEHICLE DUE TO STRUCTURAL DAMAGE. NASA'S BASELINE FMEA HAZARDS FIELD PARTIALLY SUPPORTS THIS: "FAILED ON HEATER MAY CAUSE POTENTIAL FRACTURE MECHANICAL PROBLEM DEPENDING ON HEATER LOCATION AND APPLICATION OF INCREASED PROPELLANT PRESSURE." IOA ALSO RECOMMENDS SPLITTING THIS FMEA, BECAUSE NASA COVERED POD AND CROSSFEED ITEMS (THERMAL SWITCHES) IN THE SAME FMEA, BUT THEIR CRITICALITIES AND EFFECTS ARE QUITE DIFFERENT.
SEE FLIGHT RULES 6-72A AND JSC 18549 NASA HEATER BOOK.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-926
NASA FMEA #: 05-6L-2031-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 926
ITEM: SWITCH, TOGGLE RCS/OMS HEATER LT/RT POD GROUP1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS UPGRADING THE CRIT TO 2/1R, AND PASSING THE B SCREEN. NASA FAILED ONLY ONE POLE OR CONTACT SET, CONSIDERING THE OTHER POLE AS REDUNDANT, WHEREAS IOA CONSIDERED THE WORST CASE FAILURE MODE BY FAILING A PART COMMON TO BOTH POLES (E.G. TOGGLE LEVER). THIS IS THE REASON FOR IOA'S HIGHER CRITICALITY AND NASA'S FAILED B SCREEN, SINCE ONE POLE MAY BE UNDETECTABLE, BUT NOT BOTH.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-927
NASA FMEA #: 05-6L-2031-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 927
ITEM: SWITCH, TOGGLE RCS/OMS HEATER LT/RT POD GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

	[2 /1R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS UPGRADING THE CRIT TO 2/1R, AND PASSING THE B SCREEN. NASA FAILED ONLY ONE POLE OR CONTACT SET, CONSIDERING THE OTHER POLE AS REDUNDANT, WHEREAS IOA CONSIDERED THE WORST CASE FAILURE MODE BY FAILING A PART COMMON TO BOTH POLES (E.G. TOGGLE LEVER). THIS IS THE REASON FOR IOA'S HIGHER CRITICALITY AND NASA'S FAILED B SCREEN, SINCE ONE POLE MAY BE UNDETECTABLE, BUT NOT BOTH.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-928
NASA FMEA #: 05-6L-2031-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 928
ITEM: SWITCH, TOGGLE, RCS/OMS HEATER LT/RT POD GROUP 1

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-929
NASA FMEA #: 05-6L-2031-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 929
ITEM: SWITCH, TOGGLE, RCS/OMS HEATER LT/RT POD GROUP 2

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-930
NASA FMEA #: 05-6L-2137-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 930
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-931
NASA FMEA #: 05-6L-2137-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 931
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA IMPLIES, WITH A B SCREEN OF "NA" (NOT APPLICABLE), THAT THIS ITEM IS STANDBY REDUNDANT TO SOME OTHER ITEM. IOA DISAGREES AND RECOMMENDS PASSING THE B SCREEN, SINCE THIS DRIVER OPERATES NORMALLY IN THE STRING, NOT PASSIVELY WAITING FOR ANOTHER ITEM TO FAIL BEFORE IT OPERATES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-932
NASA FMEA #: 05-6L-2137-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 932
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-933
NASA FMEA #: 05-6L-2137-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 933
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA IMPLIES, WITH A B SCREEN OF "NA" (NOT APPLICABLE), THAT THIS ITEM IS STANDBY REDUNDANT TO SOME OTHER ITEM. IOA DISAGREES AND RECOMMENDS PASSING THE B SCREEN, SINCE THIS DRIVER OPERATES NORMALLY IN THE STRING, NOT PASSIVELY WAITING FOR ANOTHER ITEM TO FAIL BEFORE IT OPERATES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-934
NASA FMEA #: 05-6L-2137-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 934
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-935
NASA FMEA #: 05-6L-2137-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 935
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA IMPLIES, WITH A B SCREEN OF "NA" (NOT APPLICABLE), THAT THIS ITEM IS STANDBY REDUNDANT TO SOME OTHER ITEM. IOA DISAGREES AND RECOMMENDS PASSING THE B SCREEN, SINCE THIS DRIVER OPERATES NORMALLY IN THE STRING, NOT PASSIVELY WAITING FOR ANOTHER ITEM TO FAIL BEFORE IT OPERATES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-936
NASA FMEA #: 05-6L-2137-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 936
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-937
NASA FMEA #: 05-6L-2137-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 937
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA IMPLIES, WITH A B SCREEN OF "NA" (NOT APPLICABLE), THAT THIS ITEM IS STANDBY REDUNDANT TO SOME OTHER ITEM. IOA DISAGREES AND RECOMMENDS PASSING THE B SCREEN, SINCE THIS DRIVER OPERATES NORMALLY IN THE STRING, NOT PASSIVELY WAITING FOR ANOTHER ITEM TO FAIL BEFORE IT OPERATES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-938
NASA FMEA #: 05-6L-2137-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 938
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-939
NASA FMEA #: 05-6L-2137-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 939
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA IMPLIES, WITH A B SCREEN OF "NA" (NOT APPLICABLE), THAT THIS ITEM IS STANDBY REDUNDANT TO SOME OTHER ITEM. IOA DISAGREES AND RECOMMENDS PASSING THE B SCREEN, SINCE THIS DRIVER OPERATES NORMALLY IN THE STRING, NOT PASSIVELY WAITING FOR ANOTHER ITEM TO FAIL BEFORE IT OPERATES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-940
NASA FMEA #: 05-6L-2137-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 940
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-941
NASA FMEA #: 05-6L-2137-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 941
ITEM: DRIVER, HYBRID

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA IMPLIES, WITH A B SCREEN OF "NA" (NOT APPLICABLE), THAT THIS ITEM IS STANDBY REDUNDANT TO SOME OTHER ITEM. IOA DISAGREES AND RECOMMENDS PASSING THE B SCREEN, SINCE THIS DRIVER OPERATES NORMALLY IN THE STRING, NOT PASSIVELY WAITING FOR ANOTHER ITEM TO FAIL BEFORE IT OPERATES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-942
NASA FMEA #: 05-6L-2019-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 942
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-943
NASA FMEA #: 05-6L-2019-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 943
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-944
NASA FMEA #: 05-6L-2019-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 944
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-945
NASA FMEA #: 05-6L-2019-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 945
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-946
NASA FMEA #: 05-6L-2019-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 946
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-947
NASA FMEA #: 05-6L-2019-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 947
ITEM: FUSE, 10A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-948
NASA FMEA #: 05-6L-2018-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 948
ITEM: FUSE, 1A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-949
NASA FMEA #: 05-6L-2018-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 949
ITEM: FUSE, 1A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-950
NASA FMEA #: 05-6L-2020-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 950
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-951
NASA FMEA #: 05-6L-2020-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 951
ITEM: FUSE, 20A

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-952
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 952
ITEM: FUEL AND OXIDIZER LOWER CENTER FEED LINE (XFEED) HEATER ELEMENT (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-953
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 953
ITEM: FUEL AND OXIDIZER LOWER CENTER FEED LINE (XFEED) HEATER ELEMENT (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-954
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 954
ITEM: FUEL AND OXIDIZER LOWER LEFT FEED LINE (XFEED) HEATER ELEMENT (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-955
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 955
ITEM: FUEL AND OXIDIZER LOWER LEFT FEED LINE (XFEED) HEATER ELEMENT (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-956
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 956
ITEM: FUEL AND OXIDIZER LOWER RIGHT FEED LINE (XFEED) HEATER ELEMENT (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-957
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 957
ITEM: FUEL AND OXIDIZER LOWER RIGHT FEED LINE (XFEED) HEATER ELEMENT (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88 NASA DATA:
ASSESSMENT ID: OMS-958 BASELINE [ ]
NASA FMEA #: 03-3-7011-1 NEW [X]

SUBSYSTEM: OMS
MDAC ID: 958
ITEM: FUEL HI POINT BLEED LINE HEATER ELEMENT (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88 NASA DATA:
ASSESSMENT ID: OMS-959 BASELINE [ ]
NASA FMEA #: 03-3-7011-1 NEW [X]

SUBSYSTEM: OMS
MDAC ID: 959
ITEM: FUEL HI POINT BLEED LINE HEATER ELEMENT (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-960
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 960
ITEM: FUEL HI POINT BLEED LINE T-4 UMBILICAL HEATER
(A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-961
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 961
ITEM: FUEL HI POINT BLEED LINE T-4 UMBILICAL HEATER
(A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-962
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 962
ITEM: L FUEL AND OXIDIZER LOW POINT DRAIN LINE HEATER
ELEMENT (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-963
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 963
ITEM: L FUEL AND OXIDIZER LOW POINT DRAIN LINE HEATER
ELEMENT (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-964
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 964
ITEM: LEFT FUEL AND OXIDIZER FLEX LINE HEATER ELEMENTS
(A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-965
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 965
ITEM: LEFT FUEL AND OXIDIZER FLEX LINE HEATER ELEMENTS
(A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-966
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 966
ITEM: OXIDIZER HI POINT BLEED LINE HEATER ELEMENT (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-967
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 967
ITEM: OXIDIZER HI POINT BLEED LINE HEATER ELEMENT
(A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-968
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 968
ITEM: OXIDIZER HI POINT BLEED LINE T-4 UMBILICAL HEATER (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-969
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 969
ITEM: OXIDIZER HI POINT BLEED LINE T-4 UMBILICAL HEATER (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-970
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 970
ITEM: R FUEL AND OXIDIZER LOW POINT DRAIN LINE HEATER
ELEMENT (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-971
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 971
ITEM: R FUEL AND OXIDIZER LOW POINT DRAIN LINE HEATER
ELEMENT (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-972
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 972
ITEM: RIGHT FUEL AND OXIDIZER FLEX LINE HEATER
ELEMENTS (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-973
NASA FMEA #: 03-3-7011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 973
ITEM: RIGHT FUEL AND OXIDIZER FLEX LINE HEATER
ELEMENTS (A/B)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THESE FMEAS, SINCE HEATER ELEMENTS CANNOT FAIL CLOSED OR SHORT SUCH THAT THEY ARE CONTINUOUSLY ON.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-974
NASA FMEA #: 05-6L-2136-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 974
ITEM: RELAY

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-975
NASA FMEA #: 05-6L-2136-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 975
ITEM: RELAY

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-976
NASA FMEA #: 05-6L-2136-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 976
ITEM: RELAY

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[F]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[F]	[X]
COMPARE	[/]	[ ]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-977
NASA FMEA #: 05-6L-2136-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 977
ITEM: RELAY

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-978
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 978
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-979
NASA FMEA #: 05-6L-2094-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 979
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-980
NASA FMEA #: 05-6L-2094-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 980
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-981
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 981
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-982
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 982
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-983
NASA FMEA #: 05-6L-2094-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 983
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-984
NASA FMEA #: 05-6L-2094-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 984
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-985
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 985
ITEM: RESISTOR, 1.2K 2W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-986
NASA FMEA #: 05-6L-2093-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 986
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-987
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 987
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-988
NASA FMEA #: 05-6L-2093-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 988
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-989
NASA FMEA #: NONE

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 989
ITEM: RESISTOR, 5.1K 1/4W

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO ISSUE. IOA IDENTIFIED A NONCREDIBLE FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-990
NASA FMEA #: 03-3-7801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 990
ITEM: AFT FUSELAGE FUEL HI POINT BLEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-990A
NASA FMEA #: 03-3-2804-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 990
ITEM: AFT FUSELAGE FUEL HI POINT BLEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-991
NASA FMEA #: 03-3-7801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 991
ITEM: AFT FUSELAGE OXIDIZER HI POINT BLEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-991A
NASA FMEA #: 03-3-2804-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 991
ITEM: AFT FUSELAGE OXIDIZER HI POINT BLEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-992
NASA FMEA #: 03-3-7801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 992
ITEM: BHD FUEL HI POINT BLEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-992A
NASA FMEA #: 03-3-2804-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 992
ITEM: BHD FUEL HI POINT BLEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-993
NASA FMEA #: 03-3-7801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 993
ITEM: BHD OXIDIZER HI POINT BLEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-993A
NASA FMEA #: 03-3-2804-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 993
ITEM: BHD OXIDIZER HI POINT BLEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-994
NASA FMEA #: 03-3-7801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 994
ITEM: CENTER - AFT FUSELAGE OXIDIZER XFEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /2]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[2 /2]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA ASSUMED NO LAUNCH IF A SENSOR INDICATES CROSSFEED TEMPS OUTSIDE THE DESIRED LIMITS (<50 F OR >90F) UNLESS SENSOR FAILURE WAS DETERMINED AND THE RISKS OF LOSS OF DETECTABILITY FOR THE THERMAL SYSTEM IS EXCEPTED (THIS ENSURES CROSSFEED FOR ABORTS). WORST CASE EFFECT WOULD BE A FALSE INDICATION OF HEATER SYSTEM FAILED OFF ON A MISSION CRITICAL CROSSFEED LINE, LEADING TO DELAYED LAUNCH AND/OR POSSIBLE LOSS OF MISSION DUE TO LOSS OF INTERCONNECT/CROSSFEED CAPABILITY. THIS IMPLIES A CRIT 2/2 SINCE NO REDUNDANCY.
SEE FLIGHT RULES 6-9A (VS) 6-73D AND MALFUNCTION PROCEDURES OMS 11.5A NOTES 2,3,4.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-994A
NASA FMEA #: 03-3-2804-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 994
ITEM: CENTER - AFT FUSELAGE OXIDIZER XFEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /2]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[2 /2]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA ASSUMED NO LAUNCH IF A SENSOR INDICATES CROSSFEED TEMPS OUTSIDE THE DESIRED LIMITS (<50 F OR >90F) UNLESS SENSOR FAILURE WAS DETERMINED AND THE RISKS OF LOSS OF DETECTABILITY FOR THE THERMAL SYSTEM IS EXCEPTED (THIS ENSURES CROSSFEED FOR ABORTS). WORST CASE EFFECT WOULD BE A FALSE INDICATION OF HEATER SYSTEM FAILED OFF ON A MISSION CRITICAL CROSSFEED LINE, LEADING TO DELAYED LAUNCH AND/OR POSSIBLE LOSS OF MISSION DUE TO LOSS OF INTERCONNECT/CROSSFEED CAPABILITY. THIS IMPLIES A CRIT 2/2 SINCE NO REDUNDANCY.
SEE FLIGHT RULES 6-9A (VS) 6-73D AND MALFUNCTION PROCEDURES OMS 11.5A NOTES 2,3,4.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-995
NASA FMEA #: 03-3-7801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 995
ITEM: LEFT AFT FUEL XFEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-995A
NASA FMEA #: 03-3-2804-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 995
ITEM: LEFT AFT FUEL XFEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-996
NASA FMEA #: 03-3-7801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 996
ITEM: LEFT AFT FUSELAGE LOW POINT OXIDIZER DRAIN LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-996A
NASA FMEA #: 03-3-2804-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 996
ITEM: LEFT AFT FUSELAGE LOW POINT OXIDIZER DRAIN LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-997
NASA FMEA #: 03-3-7801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 997
ITEM: LEFT - AFT FUSELAGE OXIDIZER XFEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /2]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[2 /2]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA ASSUMED NO LAUNCH IF A SENSOR INDICATES CROSSFEED TEMPS OUTSIDE THE DESIRED LIMITS (<50 F OR >90F) UNLESS SENSOR FAILURE WAS DETERMINED AND THE RISKS OF LOSS OF DETECTABILITY FOR THE THERMAL SYSTEM IS EXCEPTED (THIS ENSURES CROSSFEED FOR ABORTS). WORST CASE EFFECT WOULD BE A FALSE INDICATION OF HEATER SYSTEM FAILED OFF ON A MISSION CRITICAL CROSSFEED LINE, LEADING TO DELAYED LAUNCH AND/OR POSSIBLE LOSS OF MISSION DUE TO LOSS OF INTERCONNECT/CROSSFEED CAPABILITY. THIS IMPLIES A CRIT 2/2 SINCE NO REDUNDANCY.
SEE FLIGHT RULES 6-9A (VS) 6-73D AND MALFUNCTION PROCEDURES OMS 11.5A NOTES 2,3,4.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-997A
NASA FMEA #: 03-3-2804-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 997
ITEM: LEFT - AFT FUSELAGE OXIDIZER XFEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /2]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[2 /2]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA ASSUMED NO LAUNCH IF A SENSOR INDICATES CROSSFEED TEMPS OUTSIDE THE DESIRED LIMITS (<50 F OR >90F) UNLESS SENSOR FAILURE WAS DETERMINED AND THE RISKS OF LOSS OF DETECTABILITY FOR THE THERMAL SYSTEM IS EXCEPTED (THIS ENSURES CROSSFEED FOR ABORTS). WORST CASE EFFECT WOULD BE A FALSE INDICATION OF HEATER SYSTEM FAILED OFF ON A MISSION CRITICAL CROSSFEED LINE, LEADING TO DELAYED LAUNCH AND/OR POSSIBLE LOSS OF MISSION DUE TO LOSS OF INTERCONNECT/CROSSFEED CAPABILITY. THIS IMPLIES A CRIT 2/2 SINCE NO REDUNDANCY.
SEE FLIGHT RULES 6-9A (VS) 6-73D AND MALFUNCTION PROCEDURE OMS 11.5A NOTES 2,3,4.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-998
NASA FMEA #: 03-3-7801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 998
ITEM: LEFT AFT OXIDIZER XFEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /2]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[2 /2]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA ASSUMED NO LAUNCH IF A SENSOR INDICATES CROSSFEED TEMPS OUTSIDE THE DESIRED LIMITS (<50 F OR >90F) UNLESS SENSOR FAILURE WAS DETERMINED AND THE RISKS OF LOSS OF DETECTABILITY FOR THE THERMAL SYSTEM IS EXCEPTED (THIS ENSURES CROSSFEED FOR ABORTS). WORST CASE EFFECT WOULD BE A FALSE INDICATION OF HEATER SYSTEM FAILED OFF ON A MISSION CRITICAL CROSSFEED LINE, LEADING TO DELAYED LAUNCH AND/OR POSSIBLE LOSS OF MISSION DUE TO LOSS OF INTERCONNECT/CROSSFEED CAPABILITY. THIS IMPLIES A CRIT 2/2 SINCE NO REDUNDANCY.
SEE FLIGHT RULES 6-9A (VS) 6-73D AND MALFUNCTION PROCEDURE OMS 11.5A NOTES 2,3,4.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-998A
NASA FMEA #: 03-3-2804-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 998
ITEM: LEFT AFT OXIDIZER XFEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /2]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[2 /2]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA ASSUMED NO LAUNCH IF A SENSOR INDICATES CROSSFEED TEMPS OUTSIDE THE DESIRED LIMITS (<50 F OR >90F) UNLESS SENSOR FAILURE WAS DETERMINED AND THE RISKS OF LOSS OF DETECTABILITY FOR THE THERMAL SYSTEM IS EXCEPTED (THIS ENSURES CROSSFEED FOR ABORTS). WORST CASE EFFECT WOULD BE A FALSE INDICATION OF HEATER SYSTEM FAILED OFF ON A MISSION CRITICAL CROSSFEED LINE, LEADING TO DELAYED LAUNCH AND/OR POSSIBLE LOSS OF MISSION DUE TO LOSS OF INTERCONNECT/CROSSFEED CAPABILITY. THIS IMPLIES A CRIT 2/2 SINCE NO REDUNDANCY.
SEE FLIGHT RULES 6-9A (VS) 6-73D AND MALFUNCTION PROCEDURE OMS 11.5A NOTES 2,3,4.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-999
NASA FMEA #: 03-3-7801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 999
ITEM: RIGHT AFT FUEL XFEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-999A
NASA FMEA #: 03-3-2804-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 999
ITEM: RIGHT AFT FUEL XFEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1000
NASA FMEA #: 03-3-7801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1000
ITEM: RIGHT AFT FUSELAGE LOW POINT OXIDIZER DRAIN LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1000A
NASA FMEA #: 03-3-2804-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1000
ITEM: RIGHT AFT FUSELAGE LOW POINT OXIDIZER DRAIN LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1001
NASA FMEA #: 03-3-7801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1001
ITEM: RIGHT - AFT FUSELAGE OXIDIZER XFEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /2]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[2 /2]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA ASSUMED NO LAUNCH IF A SENSOR INDICATES CROSSFEED TEMPS OUTSIDE THE DESIRED LIMITS (<50 F OR >90F) UNLESS SENSOR FAILURE WAS DETERMINED AND THE RISKS OF LOSS OF DETECTABILITY FOR THE THERMAL SYSTEM IS EXCEPTED (THIS ENSURES CROSSFEED FOR ABORTS). WORST CASE EFFECT WOULD BE A FALSE INDICATION OF HEATER SYSTEM FAILED OFF ON A MISSION CRITICAL CROSSFEED LINE, LEADING TO DELAYED LAUNCH AND/OR POSSIBLE LOSS OF MISSION DUE TO LOSS OF INTERCONNECT/CROSSFEED CAPABILITY. THIS IMPLIES A CRIT 2/2 SINCE NO REDUNDANCY.
SEE FLIGHT RULES 6-9A (VS) 6-73D AND MALFUNCTION PROCEDURE OMS 11.5A NOTES 2,3,4.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1001A
NASA FMEA #: 03-3-2804-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1001
ITEM: RIGHT - AFT FUSELAGE OXIDIZER XFEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /2]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[2 /2]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA ASSUMED NO LAUNCH IF A SENSOR INDICATES CROSSFEED TEMPS OUTSIDE THE DESIRED LIMITS (<50 F OR >90F) UNLESS SENSOR FAILURE WAS DETERMINED AND THE RISKS OF LOSS OF DETECTABILITY FOR THE THERMAL SYSTEM IS EXCEPTED (THIS ENSURES CROSSFEED FOR ABORTS). WORST CASE EFFECT WOULD BE A FALSE INDICATION OF HEATER SYSTEM FAILED OFF ON A MISSION CRITICAL CROSSFEED LINE, LEADING TO DELAYED LAUNCH AND/OR POSSIBLE LOSS OF MISSION DUE TO LOSS OF INTERCONNECT/CROSSFEED CAPABILITY. THIS IMPLIES A CRIT 2/2 SINCE NO REDUNDANCY.
SEE FLIGHT RULES 6-9A (VS) 6-73D AND MALFUNCTION PROCEDURE OMS 11.5A NOTES 2,3,4.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1002
NASA FMEA #: 03-3-7801-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1002
ITEM: RIGHT AFT OXIDIZER XFEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /2]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[2 /2]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA ASSUMED NO LAUNCH IF A SENSOR INDICATES CROSSFEED TEMPS OUTSIDE THE DESIRED LIMITS (<50 F OR >90F) UNLESS SENSOR FAILURE WAS DETERMINED AND THE RISKS OF LOSS OF DETECTABILITY FOR THE THERMAL SYSTEM IS EXCEPTED (THIS ENSURES CROSSFEED FOR ABORTS). WORST CASE EFFECT WOULD BE A FALSE INDICATION OF HEATER SYSTEM FAILED OFF ON A MISSION CRITICAL CROSSFEED LINE, LEADING TO DELAYED LAUNCH AND/OR POSSIBLE LOSS OF MISSION DUE TO LOSS OF INTERCONNECT/CROSSFEED CAPABILITY. THIS IMPLIES A CRIT 2/2 SINCE NO REDUNDANCY.
SEE FLIGHT RULES 6-9A (VS) 6-73D AND MALFUNCTION PROCEDURE OMS 11.5A NOTES 2,3,4.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1002A
NASA FMEA #: 03-3-2804-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1002
ITEM: RIGHT AFT OXIDIZER XFEED LINE TEMP SENSOR

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /2]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /2]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA ASSUMED NO LAUNCH IF A SENSOR INDICATES CROSSFEED TEMPS OUTSIDE THE DESIRED LIMITS (<50 F OR >90F) UNLESS SENSOR FAILURE WAS DETERMINED AND THE RISKS OF LOSS OF DETECTABILITY FOR THE THERMAL SYSTEM IS EXCEPTED (THIS ENSURES CROSSFEED FOR ABORTS). WORST CASE EFFECT WOULD BE A FALSE INDICATION OF HEATER SYSTEM FAILED OFF ON A MISSION CRITICAL CROSSFEED LINE, LEADING TO DELAYED LAUNCH AND/OR POSSIBLE LOSS OF MISSION DUE TO LOSS OF INTERCONNECT/CROSSFEED CAPABILITY. THIS IMPLIES A CRIT 2/2 SINCE NO REDUNDANCY.
SEE FLIGHT RULES 6-9A (VS) 6-73D AND MALF. PROC. OMS 11.5A NOTES 2,3,4.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1003
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1003
ITEM: FUEL & OXIDIZER FLEX LINE OVER TEMP (LT DECK)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1004
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1004
ITEM: FUEL & OXIDIZER FLEX LINE OVER TEMP (LT DECK)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[F]	[F]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA GROUPED POD AND CROSSFEED HEATERS IN ONE FMEA, BUT THEIR CRITS AND EFFECTS ARE QUITE DIFFERENT, SO THEY SHOULD BE ON SEPARATE FMEAS. THIS FMEA COVERS BOTH 'CONTROL TEMP' AND 'OVER TEMP' THERMAL SWITCHES. OVER TEMP IS STANDBY REDUNDANT TO CONTROL TEMP. SINCE THERE ARE NO TEST POINTS BETWEEN THEM, AND NO WAY TO ARTIFICIALLY FAIL A CONTROL TEMP THERMAL SWITCH, THERE IS NO WAY TO TEST ON THE GROUND FOR AN OVER TEMP THERMAL SWITCH FAILING CLOSED. THEREFORE, IOA RECOMMENDS FAILING THE A SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1005
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1005
ITEM: FUEL & OXIDIZER FLEX LINE OVER TEMP (RT DECK)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1006
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1006
ITEM: FUEL & OXIDIZER FLEX LINE OVER TEMP (RT DECK)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R] [F] [F] [P] [A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA GROUPED POD AND CROSSFEED HEATERS IN ONE FMEA, BUT THEIR CRITS AND EFFECTS ARE QUITE DIFFERENT, SO THEY SHOULD BE ON SEPARATE FMEAS. THIS FMEA COVERS BOTH 'CONTROL TEMP' AND 'OVER TEMP' THERMAL SWITCHES. OVER TEMP IS STANDBY REDUNDANT TO CONTROL TEMP. SINCE THERE ARE NO TEST POINTS BETWEEN THEM, AND NO WAY TO ARTIFICIALLY FAIL A CONTROL TEMP THERMAL SWITCH, THERE IS NO WAY TO TEST ON THE GROUND FOR AN OVER TEMP THERMAL SWITCH FAILING CLOSED. THEREFORE, IOA RECOMMENDS FAILING THE A SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1007
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1007
ITEM: FUEL & OXIDIZER LOWER CENTER FEED LINE OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1008
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1008
ITEM: FUEL & OXIDIZER LOWER CENTER FEED LINE OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[F]	[F]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA GROUPED POD AND CROSSFEED HEATERS IN ONE FMEA, BUT THEIR CRITS AND EFFECTS ARE QUITE DIFFERENT, SO THEY SHOULD BE ON SEPARATE FMEAS. THIS FMEA COVERS BOTH 'CONTROL TEMP' AND 'OVER TEMP' THERMAL SWITCHES. OVER TEMP IS STANDBY REDUNDANT TO CONTROL TEMP. SINCE THERE ARE NO TEST POINTS BETWEEN THEM, AND NO WAY TO ARTIFICIALLY FAIL A CONTROL TEMP THERMAL SWITCH, THERE IS NO WAY TO TEST ON THE GROUND FOR AN OVER TEMP THERMAL SWITCH FAILING CLOSED. THEREFORE, IOA RECOMMENDS FAILING THE A SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1009
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1009
ITEM: FUEL & OX LOWER CENTER XFEED LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1010
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1010
ITEM: FUEL & OX LOWER CENTER XFEED LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[F]	[F]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA GROUPED POD AND CROSSFEED HEATERS IN ONE FMEA, BUT THEIR CRITS AND EFFECTS ARE QUITE DIFFERENT, SO THEY SHOULD BE ON SEPARATE FMEAS. THIS FMEA COVERS BOTH 'CONTROL TEMP' AND 'OVER TEMP' THERMAL SWITCHES. OVER TEMP IS STANDBY REDUNDANT TO CONTROL TEMP. SINCE THERE ARE NO TEST POINTS BETWEEN THEM, AND NO WAY TO ARTIFICIALLY FAIL A CONTROL TEMP THERMAL SWITCH, THERE IS NO WAY TO TEST ON THE GROUND FOR AN OVER TEMP THERMAL SWITCH FAILING CLOSED. THEREFORE, IOA RECOMMENDS FAILING THE A SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1011
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1011
ITEM: FUEL & OXIDIZER LOWER LEFT FEED LINE OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1012
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1012
ITEM: FUEL & OXIDIZER LOWER LEFT FEED LINE OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[F]	[F]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA GROUPED POD AND CROSSFEED HEATERS IN ONE FMEA, BUT THEIR CRITS AND EFFECTS ARE QUITE DIFFERENT, SO THEY SHOULD BE ON SEPARATE FMEAS. THIS FMEA COVERS BOTH 'CONTROL TEMP' AND 'OVER TEMP' THERMAL SWITCHES. OVER TEMP IS STANDBY REDUNDANT TO CONTROL TEMP. SINCE THERE ARE NO TEST POINTS BETWEEN THEM, AND NO WAY TO ARTIFICIALLY FAIL A CONTROL TEMP THERMAL SWITCH, THERE IS NO WAY TO TEST ON THE GROUND FOR AN OVER TEMP THERMAL SWITCH FAILING CLOSED. THEREFORE, IOA RECOMMENDS FAILING THE A SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1013
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1013
ITEM: FUEL & OX LOWER LEFT XFEED LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1014
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1014
ITEM: FUEL & OX LOWER LEFT XFEED LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1015
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1015
ITEM: FUEL & OXIDIZER LOWER RIGHT FEED LINE OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1016
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1016
ITEM: FUEL & OXIDIZER LOWER RIGHT FEED LINE OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[F]	[F]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA GROUPED POD AND CROSSFEED HEATERS IN ONE FMEA, BUT THEIR CRITS AND EFFECTS ARE QUITE DIFFERENT, SO THEY SHOULD BE ON SEPARATE FMEAS. THIS FMEA COVERS BOTH 'CONTROL TEMP' AND 'OVER TEMP' THERMAL SWITCHES. OVER TEMP IS STANDBY REDUNDANT TO CONTROL TEMP. SINCE THERE ARE NO TEST POINTS BETWEEN THEM, AND NO WAY TO ARTIFICIALLY FAIL A CONTROL TEMP THERMAL SWITCH, THERE IS NO WAY TO TEST ON THE GROUND FOR AN OVER TEMP THERMAL SWITCH FAILING CLOSED. THEREFORE, IOA RECOMMENDS FAILING THE A SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1017
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1017
ITEM: FUEL & OX LOWER RIGHT XFEED LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1018
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1018
ITEM: FUEL & OX LOWER RIGHT XFEED LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1019
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1019
ITEM: FUEL FLEX LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1020
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1020
ITEM: FUEL FLEX LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1021
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1021
ITEM: FUEL HI PT BLEED LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1022
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1022
ITEM: FUEL HI PT BLEED LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1023
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1023
ITEM: FUEL HI PT BLEED LINE OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88 NASA DATA:
ASSESSMENT ID: OMS-1024 BASELINE [ ]
NASA FMEA #: 03-3-7002-2 NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1024
ITEM: FUEL HI PT BLEED LINE OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R] [F] [F] [P] [A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA GROUPED POD AND CROSSFEED HEATERS IN ONE FMEA, BUT THEIR CRITS AND EFFECTS ARE QUITE DIFFERENT, SO THEY SHOULD BE ON SEPARATE FMEAS. THIS FMEA COVERS BOTH 'CONTROL TEMP' AND 'OVER TEMP' THERMAL SWITCHES. OVER TEMP IS STANDBY REDUNDANT TO CONTROL TEMP. SINCE THERE ARE NO TEST POINTS BETWEEN THEM, AND NO WAY TO ARTIFICIALLY FAIL A CONTROL TEMP THERMAL SWITCH, THERE IS NO WAY TO TEST ON THE GROUND FOR AN OVER TEMP THERMAL SWITCH FAILING CLOSED. THEREFORE, IOA RECOMMENDS FAILING THE A SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1025
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1025
ITEM: FUEL HI PT BLEED LINE T-4 UMB OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1026
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1026
ITEM: FUEL HI PT BLEED LINE T-4 UMB OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[F]	[F]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA GROUPED POD AND CROSSFEED HEATERS IN ONE FMEA, BUT THEIR CRITS AND EFFECTS ARE QUITE DIFFERENT, SO THEY SHOULD BE ON SEPARATE FMEAS. THIS FMEA COVERS BOTH 'CONTROL TEMP' AND 'OVER TEMP' THERMAL SWITCHES. OVER TEMP IS STANDBY REDUNDANT TO CONTROL TEMP. SINCE THERE ARE NO TEST POINTS BETWEEN THEM, AND NO WAY TO ARTIFICIALLY FAIL A CONTROL TEMP THERMAL SWITCH, THERE IS NO WAY TO TEST ON THE GROUND FOR AN OVER TEMP THERMAL SWITCH FAILING CLOSED. THEREFORE, IOA RECOMMENDS FAILING THE A SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1027
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1027
ITEM: FUEL HI PT BLEED LINE T-4 UMB. CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1028
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1028
ITEM: FUEL HI PT BLEED LINE T-4 UMB. CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1029
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1029
ITEM: L FUEL & OXIDIZER LO PT BLEED LINE OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1030
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1030
ITEM: L FUEL & OXIDIZER LO PT BLEED LINE OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[F]	[F]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA GROUPED POD AND CROSSFEED HEATERS IN ONE FMEA, BUT THEIR CRITS AND EFFECTS ARE QUITE DIFFERENT, SO THEY SHOULD BE ON SEPARATE FMEAS. THIS FMEA COVERS BOTH 'CONTROL TEMP' AND 'OVER TEMP' THERMAL SWITCHES. OVER TEMP IS STANDBY REDUNDANT TO CONTROL TEMP. SINCE THERE ARE NO TEST POINTS BETWEEN THEM, AND NO WAY TO ARTIFICIALLY FAIL A CONTROL TEMP THERMAL SWITCH, THERE IS NO WAY TO TEST ON THE GROUND FOR AN OVER TEMP THERMAL SWITCH FAILING CLOSED. THEREFORE, IOA RECOMMENDS FAILING THE A SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1031
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1031
ITEM: L FUEL & OXIDIZER LO PT DRAIN LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1032
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1032
ITEM: L FUEL & OXIDIZER LO PT DRAIN LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1033
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1033
ITEM: OXIDIZER FLEX LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1034
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1034
ITEM: OXIDIZER FLEX LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1035
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1035
ITEM: OXIDIZER HI PT BLEED LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1036
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1036
ITEM: OXIDIZER HI PT BLEED LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88 NASA DATA:
ASSESSMENT ID: OMS-1037 BASELINE [ ]
NASA FMEA #: 03-3-7002-1 NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1037
ITEM: OXIDIZER HI PT BLEED LINE OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1038
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1038
ITEM: OXIDIZER HI PT BLEED LINE OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[F]	[F]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA GROUPED POD AND CROSSFEED HEATERS IN ONE FMEA, BUT THEIR CRITS AND EFFECTS ARE QUITE DIFFERENT, SO THEY SHOULD BE ON SEPARATE FMEAS. THIS FMEA COVERS BOTH 'CONTROL TEMP' AND 'OVER TEMP' THERMAL SWITCHES. OVER TEMP IS STANDBY REDUNDANT TO CONTROL TEMP. SINCE THERE ARE NO TEST POINTS BETWEEN THEM, AND NO WAY TO ARTIFICIALLY FAIL A CONTROL TEMP THERMAL SWITCH, THERE IS NO WAY TO TEST ON THE GROUND FOR AN OVER TEMP THERMAL SWITCH FAILING CLOSED. THEREFORE, IOA RECOMMENDS FAILING THE A SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88 NASA DATA:
ASSESSMENT ID: OMS-1039 BASELINE [ ]
NASA FMEA #: 03-3-7002-1 NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1039
ITEM: OXIDIZER HI PT BLEED LINE T-4 UMB OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1040
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1040
ITEM: OXIDIZER HI PT BLEED LINE T-4 UMB OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[F]	[F]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA GROUPED POD AND CROSSFEED HEATERS IN ONE FMEA, BUT THEIR CRITS AND EFFECTS ARE QUITE DIFFERENT, SO THEY SHOULD BE ON SEPARATE FMEAS. THIS FMEA COVERS BOTH 'CONTROL TEMP' AND 'OVER TEMP' THERMAL SWITCHES. OVER TEMP IS STANDBY REDUNDANT TO CONTROL TEMP. SINCE THERE ARE NO TEST POINTS BETWEEN THEM, AND NO WAY TO ARTIFICIALLY FAIL A CONTROL TEMP THERMAL SWITCH, THERE IS NO WAY TO TEST ON THE GROUND FOR AN OVER TEMP THERMAL SWITCH FAILING CLOSED. THEREFORE, IOA RECOMMENDS FAILING THE A SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88 NASA DATA:
ASSESSMENT ID: OMS-1041 BASELINE [ ]
NASA FMEA #: 03-3-7002-1 NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1041
ITEM: OXIDIZER HI PT BLEED LINE T-4 UMB. CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1042
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1042
ITEM: OXIDIZER HI PT BLEED LINE T-4 UMB. CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1043
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1043
ITEM: R FUEL & OXIDIZER LO PT BLEED LINE OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1044
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1044
ITEM: R FUEL & OXIDIZER LO PT BLEED LINE OVER TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[F]	[F]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA GROUPED POD AND CROSSFEED HEATERS IN ONE FMEA, BUT THEIR CRITS AND EFFECTS ARE QUITE DIFFERENT, SO THEY SHOULD BE ON SEPARATE FMEAS. THIS FMEA COVERS BOTH 'CONTROL TEMP' AND 'OVER TEMP' THERMAL SWITCHES. OVER TEMP IS STANDBY REDUNDANT TO CONTROL TEMP. SINCE THERE ARE NO TEST POINTS BETWEEN THEM, AND NO WAY TO ARTIFICIALLY FAIL A CONTROL TEMP THERMAL SWITCH, THERE IS NO WAY TO TEST ON THE GROUND FOR AN OVER TEMP THERMAL SWITCH FAILING CLOSED. THEREFORE, IOA RECOMMENDS FAILING THE A SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1045
NASA FMEA #: 03-3-7002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1045
ITEM: R FUEL & OXIDIZER LO PT DRAIN LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1046
NASA FMEA #: 03-3-7002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1046
ITEM: R FUEL & OXIDIZER LO PT DRAIN LINE CONTROL TEMP

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1047
NASA FMEA #: 05-6L-2036-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1047
ITEM: SWITCH TOGGLE, OMS XFEED LINES A AUTO (S7)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS CRITICALITY OF 3/2R SINCE THE LOSS OF ALL REDUNDANCY (OTHER SWITCH FAILS) IS A POSSIBLE LOSS OF MISSION DUE TO LOSS OF INTERCONNECT/CROSSFEED CAPABILITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1048
NASA FMEA #: 05-6L-2036-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1048
ITEM: SWITCH TOGGLE, OMS XFEED LINES A AUTO (S7)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1049
NASA FMEA #: 05-6L-2036-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1049
ITEM: SWITCH TOGGLE, OMS XFEED LINES B AUTO (S8)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS CRITICALITY OF 3/2R SINCE THE LOSS OF ALL REDUNDANCY (OTHER SWITCH FAILS) IS A POSSIBLE LOSS OF MISSION DUE TO LOSS OF INTERCONNECT/CROSSFEED CAPABILITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-1050
NASA FMEA #: 05-6L-2036-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: OMS
MDAC ID: 1050
ITEM: SWITCH TOGGLE, OMS XFEED LINES B AUTO (S8)

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THIS NASA FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/01/88
ASSESSMENT ID: OMS-21001X
NASA FMEA #: 03-3-8001-1

NASA DATA:
BASELINE [ ]
NEW [ ]

SUBSYSTEM: OMS
MDAC ID: 21001
ITEM: DEDICATED SIGNAL CONDITIONER

LEAD ANALYST: W.A. HAUFLER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[/]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[2 /2]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS UPGRADING THIS FMEA TO 2/2, 1/1 ABORT, THUS ADDING THIS TO THE CIL LIST. IOA'S CRIT IS BASED ON THE HIGHEST CRITICALITY OF THE SIGNALS ROUTED THROUGH THE SIGNAL CONDITIONERS. THESE WORST CASE SIGNALS ARE FROM OMS ENGINE TEMPERATURE AND
PRESSURE SENSORS (E.G. ENGINE REGULATOR OUTLET PRESSURE SENSOR; OMS-689 OR SECTION 4.2.3.B.6). LOSS OF A VITAL ENGINE MEASUREMENT WILL PREVENT THE CREW FROM USING THAT OMS ENGINE FOR NONCRITICAL BURNS, RESULTING IN LOSS OF MISSION.
THE IOA'S 1/1 ABORT CRIT IS A WEAK OR TENTATIVE RECOMMENDATION.

APPENDIX D

CRITICAL ITEMS

APPENDIX D

IOA RECOMMENDED CRITICAL ITEMS - OMS HARDWARE

NASA FMEA NUMBER	ASSESSMENT ID NUMBER	ITEM	FAILURE MODE
03-3-1001-1	OMS-100	TANK, HELIUM STORAGE	RUPTURE
	OMS-101	TANK, HELIUM STORAGE	EXTERNAL LEAKAGE
03-3-1002-1	OMS-102	COUPLING, HELIUM FILL	EXTERNAL LEAKAGE
03-3-1003-1	OMS-108	VALVE, HELIUM ISOLATION	FAILS TO CLOSE, FAILS TO REMAIN CLOSED
	OMS-109	VALVE, HELIUM ISOLATION	INTERNAL LEAKAGE
03-3-1003-2	OMS-107	VALVE, HELIUM ISOLATION	FAILS TO OPEN, FAILS TO REMAIN OPEN
	OMS-111	VALVE, HELIUM ISOLATION	RESTRICTED FLOW
03-3-1004-1	OMS-118	REGULATOR ASSY, HELIUM PRESSURE	FAILS TO REGULATE
03-3-1004-2	OMS-119	REGULATOR ASSEMBLY, HELIUM PRESSURE	FAILS TO OPEN
	OMS-120	REGULATOR ASSEMBLY, HELIUM PRESSURE	OUT OF TOLERANCE, REGULATES AT LOW PRESSURE
	OMS-121	REGULATOR ASSEMBLY, HELIUM PRESSURE	RESTRICTED FLOW
03-3-1004-3	OMS-20013X	HELIUM PRESSURE REGULATOR ASSEMBLY	EXTERNAL LEAKAGE VIA BELLOWS & SENSING PORT
03-3-1006-1	OMS-127	VALVE, VAPOR ISOLATION-OXIDIZER	FAILS TO CLOSE, FAILS TO REMAIN CLOSED
	OMS-128	VALVE, VAPOR ISOLATION-OXIDIZER	INTERNAL LEAKAGE, REVERSE FLOW
03-3-1006-2	OMS-126	VALVE, VAPOR ISOLATION-OXIDIZER	FAILS TO OPEN, FAILS TO REMAIN OPEN
	OMS-130	VALVE, VAPOR ISOLATION-OXIDIZER	RESTRICTED FLOW
03-3-1007-1	OMS-133	VALVE, QUAD CHECK VALVES, FUEL	FAILS TO CLOSE, INTERNAL LEAKAGE, BACK FLOW
	OMS-134	VALVE, QUAD CHECK VALVES, OXIDIZER	FAILS TO CLOSE, INTERNAL LEAKAGE, BACK FLOW
03-3-1007-2	OMS-132	VALVE, QUAD CHECK VALVES	FAILS TO OPEN
03-3-1007-3	OMS-136	VALVE, QUAD CHECK VALVES	RESTRICTED FLOW
03-3-1009-1	OMS-145	VALVE-PRESSURE RELIEF ASSEMBLY	EXTERNAL LEAKAGE
03-3-1009-2	OMS-141	VALVE-PRESSURE RELIEF ASSEMBLY	OUT OF TOLERANCE, RELIEF VALVE FAILS CLOSED
03-3-1009-3	OMS-142	VALVE-PRESSURE RELIEF ASSEMBLY	OUT OF TOLERANCE, BURST DISK RUPTURES
	OMS-143	VALVE-PRESSURE RELIEF ASSEMBLY	BURST DISK LEAK, INTERNAL LEAKAGE
03-3-1009-4	OMS-141A	VALVE-PRESSURE RELIEF ASSEMBLY	OUT OF TOLERANCE, RELIEF VALVE FAILS CLOSED
03-3-1009-5	OMS-144	VALVE-PRESSURE RELIEF ASSEMBLY	FAILS TO CLOSE, VALVE FAILS TO RESEAT
03-3-1101-1	OMS-105	LINES AND MECHANICAL FITTINGS-HELIUM PRESSURE	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
	OMS-110	VALVE, HELIUM ISOLATION	EXTERNAL LEAKAGE
	OMS-116	LINES AND MECHANICAL FITTINGS-HELIUM PRESSURE	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
	OMS-122	REGULATOR ASSEMBLY, HELIUM PRESSURE	EXTERNAL LEAKAGE
	OMS-129	VALVE, VAPOR ISOLATION-OXIDIZER	EXTERNAL LEAKAGE
	OMS-135	VALVE, QUAD CHECK VALVES	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
	OMS-145A	VALVE-PRESSURE RELIEF ASSEMBLY	EXTERNAL LEAKAGE
	OMS-155	VALVE-GROUND, MANUAL ISOLATION	EXTERNAL LEAKAGE
03-3-1205-1	OMS-113	COUPLING-TEST PORT, HIGH PRESSURE HELIUM	EXTERNAL LEAKAGE
	OMS-123	COUPLING-TEST PORT, VAPOR ISOLATION CHECKOUT	EXTERNAL LEAKAGE
	OMS-137	COUPLING-TEST PORT, QUAD CHECK VALVE	EXTERNAL LEAKAGE
	OMS-146	COUPLING-TEST PORT, PRESSURE RELIEF VALVE	EXTERNAL LEAKAGE
03-3-2001-1	OMS-150	COUPLING-TEST PORT, PROPELLANT PRESSURE CHECK	EXTERNAL LEAKAGE
	OMS-156	COUPLING-TANK VENT	EXTERNAL LEAKAGE
	OMS-168	COUPLING-TANK ACQ. SYSTEM TRAP FILL/VENT PORT	EXTERNAL LEAKAGE
	OMS-171	COUPLING-TANK ACQ. SYSTEM FILL/VENT PORT	EXTERNAL LEAKAGE
	OMS-174	COUPLING-PROPELLANT, TANK TEST PORT	EXTERNAL LEAKAGE
	OMS-231	COUPLING - HIGH-POINT BLEED	EXTERNAL LEAKAGE
03-3-20010-1	OMS-216	CROSSFEED GIMBAL JOINT	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK

APPENDIX D

IOA RECOMMENDED CRITICAL ITEMS - OMS HARDWARE

NASA FMEA NUMBER	ASSESSMENT ID NUMBER	ITEM	FAILURE MODE
03-3-20011-1	OMS-219	FLEXIBLE LINE ASSEMBLY	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
03-3-2002-1	OMS-163	PROPELLANT TANK	RUPTURE
03-3-2002-2	OMS-164	PROPELLANT TANK	STRUCTURAL FAILURE, EXTERNAL LEAKAGE
03-3-2004-1	OMS-193	COLLECTOR MANIFOLD	STRUCTURAL FAILURE, HELIUM PASSAGE
03-3-2005-1	OMS-192	GALLERY LEGS	STRUCTURAL FAILURE, HELIUM PASSAGE
03-3-2006-3	OMS-190	COMMUNICATION SCREEN	STRUCTURAL FAILURE, LOSS OF RETENTION
	OMS-191	COMMUNICATION SCREEN	STRUCTURAL FAILURE, HELIUM PASSAGE
03-3-2007-2	OMS-198	VALVE-PROPELLANT TANK ISOLATION	FAILS TO OPEN, FAILS TO REMAIN OPEN
	OMS-203	VALVE-PROPELLANT TANK ISOLATION	RESTRICTED FLOW
03-3-2007-3	OMS-202A	AC VALVE	EXTERNAL LEAKAGE
03-3-2008-2	OMS-228	VALVE-CROSSFEED	RESTRICTED FLOW
03-3-2008-3	OMS-227A	AC VALVE	EXTERNAL LEAKAGE
03-3-2009-1	OMS-165	COUPLING-PROP TANK, HORIZONTAL DRAIN PORT	EXTERNAL LEAKAGE
	OMS-207	COUPLING - PROPELLANT LOW-POINT DRAIN	EXTERNAL LEAKAGE
	OMS-210	COUPLING-OMS/RCS PROPELLANT FILL PORT	EXTERNAL LEAKAGE
	OMS-213	COUPLING - PROPELLANT GROUND-PURGE	EXTERNAL LEAKAGE
	OMS-234	COUPLING-CROSSFEED DRAIN	EXTERNAL LEAKAGE
03-3-2101-1	OMS-194	PROPELLANT LINES AND MECHANICAL FITTINGS-MMH AND NTO	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
	OMS-202	VALVE-PROPELLANT TANK ISOLATION	EXTERNAL LEAKAGE
	OMS-227	VALVE-CROSSFEED	EXTERNAL LEAKAGE
	OMS-260	VALVE - BIPROPELLANT VALVE	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
03-3-2102-1	OMS-194A	PROPELLANT LINES AND MECHANICAL FITTINGS-MMH AND NTO	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
03-3-2601-1	OMS-160	GIMBAL BELLOWS	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
	OMS-195	GIMBAL BELLOWS	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
	OMS-239	GIMBAL BELLOWS	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
	OMS-242	GIMBAL BELLOWS	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
03-3-2602-1	OMS-245	ALIGNMENT BELLOWS	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
03-3-4001-1	OMS-257	VALVE - BIPROPELLANT VALVE	FAILS TO CLOSE, FAILS TO REMAIN CLOSED
	OMS-327	VALVE-ENGINE CONTROL	FAILS TO CLOSE, FAILS TO REMAIN CLOSED
	OMS-338	PNEUMATIC ACTUATOR	FAILS TO CLOSE, PHYSICAL BINDING/JAMMING
	OMS-348A	PINION GEAR AND DRIVE ASSEMBLY	FAILS TO OPERATE, PHYSICAL BINDING/JAMMING
03-3-4001-2	OMS-256	VALVE - BIPROPELLANT VALVE	FAILS TO OPEN, RESTRICTED FLOW
	OMS-326	VALVE-ENGINE CONTROL	FAILS TO OPEN, FAILS TO REMAIN OPEN
	OMS-337	PNEUMATIC ACTUATOR	FAILS TO OPEN OR OPERATE, BINDING/JAMMING
	OMS-340	PNEUMATIC ACTUATOR	INTERNAL LEAKAGE, PISTON SEAL LEAKAGE
	OMS-348	PINION GEAR AND DRIVE ASSEMBLY	FAILS TO OPERATE, PHYSICAL BINDING/JAMMING
	OMS-349	PINION GEAR AND DRIVE ASSEMBLY	STRUCTURAL FAILURE, FRACTURE
03-3-4001-3	OMS-20003X	PINION GEAR AND DRIVE ASSEMBLY	DELAYED OPERATION
	OMS-20006X	PINION GEAR & DRIVE ASSEMBLY	FAILS MIDTRAVEL, PARTIALLY OPEN/CLOSED
	OMS-258	VALVE - BIPROPELLANT VALVE	FAILS MIDTRAVEL, PARTIALLY OPEN/CLOSED
	OMS-261	VALVE - BIPROPELLANT VALVE	DELAYED OPERATION
	OMS-331	VALVE-ENGINE CONTROL	DELAYED OPERATION
	OMS-339	PNEUMATIC ACTUATOR	FAILS MIDTRAVEL, PHYSICAL BINDING/JAMMING
	OMS-344	PNEUMATIC ACTUATOR	DELAYED OPERATION
03-3-4001-4	OMS-328	VALVE-ENGINE CONTROL	INTERNAL LEAKAGE

APPENDIX D

IOA RECOMMENDED CRITICAL ITEMS - OMS HARDWARE

NASA FMEA NUMBER	ASSESSMENT ID NUMBER	ITEM	FAILURE MODE
03-3-4001-5	OMS-341	PNEUMATIC ACTUATOR	RUPTURE
	OMS-343	PNEUMATIC ACTUATOR	EXTERNAL LEAKAGE (GN2)
03-3-4001-6	OMS-259	VALVE - BIPROPELLANT VALVE	INTERNAL LEAKAGE
03-3-4002-1	OMS-249	ENGINE INLET FILTER AND ORIFICE	RESTRICTED FLOW, CLOGGED
03-3-4002-2	OMS-248	ENGINE INLET FILTER AND ORIFICE	STRUCTURAL FAILURE, CONTAMINATION PASSAGE
03-3-4003-1	OMS-270	OME ALIGNMENT BELLOWS	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
03-3-4004-1	OMS-280	PLATELET INJECTOR ASSEMBLY	STRUCTURAL FAILURE, BURN THROUGH
	OMS-281	PLATELET INJECTOR ASSEMBLY	STRUCTURAL FAILURE, INTERNAL LEAKAGE
03-3-4004-2	OMS-282	PLATELET INJECTOR ASSEMBLY	RESTRICTED FLOW, CLOGGED
03-3-4005-1	OMS-285A	NOZZLE EXTENSION	STRUCTURAL FAILURE (BURN THROUGH, FRACTURE)
03-3-4005-2	OMS-283	COMBUSTION CHAMBER	STRUCTURAL FAILURE, BURN THROUGH
	OMS-284	COMBUSTION CHAMBER	STRUCTURAL FAILURE, FRACTURE
03-3-4006-1	OMS-285	NOZZLE EXTENSION	STRUCTURAL FAILURE (BURN THROUGH, FRACTURE)
	OMS-286	NOZZLE EXTENSION	STRUCTURAL FAILURE, BUCKLING(DURING ASCENT)
03-3-4501-1	OMS-295	TANK-GN2 STORAGE	RUPTURE
03-3-45011-1	OMS-317	VALVE-GN2 PRESSURE RELIEF	INTERNAL/EXTERNAL LEAKAGE
	OMS-318	VALVE-GN2 PRESSURE RELIEF	OUT OF TOLERANCE, OPENS AT LOW PRESSURE
03-3-45011-3	OMS-20012X	GN2 PRESSURE REGULATOR AND PRESSURE RELIEF VALVE	REG FAIL OPEN AND RELIEF VALVE FAIL CLOSED
03-3-4502-1	OMS-287	COUPLING-GN2 TANK FILL/VENT	EXTERNAL LEAKAGE
03-3-4503-2	OMS-299	VALVE-GN2 PRESSURE ISOLATION	FAILS TO OPEN, FAILS TO REMAIN OPEN
	OMS-303	VALVE-GN2 PRESSURE ISOLATION	RESTRICTED FLOW
03-3-4505-2	OMS-305	GN2 PRESSURE REGULATOR	FAILS TO OPEN
	OMS-308	GN2 PRESSURE REGULATOR	OUT OF TOLERANCE, REGULATES AT LOW PRESSURE
	OMS-309	GN2 PRESSURE REGULATOR	RESTRICTED FLOW
03-3-4506-1	OMS-312	COUPLING, GN2 REGULATOR TEST PORT	EXTERNAL LEAKAGE
03-3-4507-1	OMS-253	COUPLING - HIGH-POINT BLEED TEST PORT	EXTERNAL LEAKAGE
	OMS-267	COUPLING - BIPROP VALVE DRAIN/PURGE TEST PORT	EXTERNAL LEAKAGE
	OMS-273	COUPLING - BIPROP VALVE DRAIN PORT	EXTERNAL LEAKAGE
	OMS-277	COUPLING-OMS ENGINE TRICKLE PURGE PORT	EXTERNAL LEAKAGE
03-3-4508-1	OMS-353	VALVE-GN2 PURGE	INTERNAL LEAKAGE
	OMS-358	CHECK VALVE-GN2 PURGE	FAILS TO CLOSE
	OMS-359	CHECK VALVE-GN2 PURGE	INTERNAL LEAKAGE
03-3-4510-1	OMS-290	GN2 PRESSURE LINES AND MECHANICAL FITTINGS	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
	OMS-324	GN2 PRESSURE LINES AND MECHANICAL FITTINGS	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
	OMS-329	VALVE-ENGINE CONTROL	EXTERNAL LEAKAGE
03-3-4551-1	OMS-320	CHECK VALVE-GN2	FAILS TO CLOSE, VALVE FAILS TO RESEAT
	OMS-321	CHECK VALVE-GN2	INTERNAL LEAKAGE
03-3-4551-2	OMS-319	CHECK VALVE-GN2	FAILS TO OPEN
03-3-4552-1	OMS-322	GN2 ACCUMULATOR	RUPTURE
	OMS-323	GN2 ACCUMULATOR	STRUCTURAL FAILURE, EXTERNAL LEAKAGE
03-3-4601-1	OMS-250	BELLOWS-TVC GIMBAL	STRUCTURAL FAILURE, RUPTURE, EXTERNAL LEAK
03-3-64011-1	OMS-364	GIMBAL RING MOUNTING PAD	STRUCTURAL FAILURE, FRACTURE
03-3-6402-1	OMS-20010X	ENGINE/ACTUATOR AND ACTUATOR/VEHICLE ATTACH HARDWARE	STRUCTURAL FAILURE, DISATTACHEMENT
	OMS-368	ACME SCREW/NUT TUBE	STRUCTURAL FAILURE, FRACTURE
	OMS-377	BEARING-SPHERICAL ROD END	STRUCTURAL FAILURE, FRACTURE
	OMS-381	OUTPUT SHAFT	STRUCTURAL FAILURE, FRACTURE, DISATTACHMENT

APPENDIX D

IOA RECOMMENDED CRITICAL ITEMS - OMS HARDWARE

NASA FMEA NUMBER	ASSESSMENT ID NUMBER	ITEM	FAILURE MODE
03-3-6402-2	OMS-20009X	DRIVE GEARS, PRIMARY AND SECONDARY	STRUCTURAL FAILURE
	OMS-20011X	BEARING - ACTUATOR/VEHICLE ATTACHMENT	PHYSICAL BINDING/JAMMING
03-3-6402-2	OMS-367	ACME SCREW/NUT TUBE	FAILS TO OPERATE, PHYSICAL BINDING/JAMMING
	OMS-376	BEARING-SPHERICAL ROD END	PHYSICAL BINDING/JAMMING
03-3-6406-1	OMS-378	MECHANICAL STOP-SNUBBER	STRUCTURAL FAILURE, FAILS OUT OF TOLERANCE
03-3-6408-1	OMS-362	GIMBAL RING	STRUCTURAL FAILURE
03-3-6409-1	OMS-363	BEARING-GIMBAL RING	FAILS TO FUNCTION, BINDING/JAMMING
NONE	OMS-106	LINES AND MECHANICAL FITTINGS-HELIUM PRESSURE	RESTRICTED FLOW, BLOCKAGE
	OMS-117	LINES AND MECHANICAL FITTINGS-HELIUM PRESSURE	RESTRICTED FLOW, BLOCKAGE
	OMS-149	PROPELLANT LINES AND MECHANICAL FITTINGS-MMH AND NTO	RESTRICTED FLOW, BLOCKAGE
	OMS-153	VALVE-GROUND, MANUAL ISOLATION	FAILS TO REMAIN OPEN
	OMS-159	PROPELLANT LINES AND MECHANICAL FITTINGS-MMH AND NTO	RESTRICTED FLOW, BLOCKAGE
	OMS-161	GIMBAL BELLOWS	OUT OF TOLERANCE, PHYSICAL BINDING/JAMMING
	OMS-162	GIMBAL BELLOWS	RESTRICTED FLOW
	OMS-196	GIMBAL BELLOWS	OUT OF TOLERANCE, PHYSICAL BINDING/JAMMING
	OMS-197	GIMBAL BELLOWS	RESTRICTED FLOW
	OMS-200	VALVE-PROPELLANT TANK ISOLATION	FAILS MIDTRAVEL, PARTIALLY OPEN/CLOSED
	OMS-20002X	GIMBAL RING BEARING, MOUNTING PAD ATTACHMENT	STRUCTURAL FAILURE, DISATTACHMENT
	OMS-20005X	VALVE - BIPROP CAVITY PRESSURE RELIEF	RESTRICTED FLOW
	OMS-20008X	BEARING - SECONDARY DRIVE GEAR	STRUCTURAL FAILURE
	OMS-205	VALVE-PROPELLANT TANK ISOLATION	OUT OF TOLERANCE, RELIEF VALVE FAILS CLOSED
	OMS-206	PROPELLANT LINES AND MECHANICAL FITTINGS-MMH AND NTO	RESTRICTED FLOW, BLOCKAGE
	OMS-217	CROSSFEED GIMBAL JOINT	OUT OF TOLERANCE, PHYSICAL BINDING/JAMMING
	OMS-218	CROSSFEED GIMBAL JOINT	RESTRICTED FLOW
	OMS-220	FLEXIBLE LINE ASSEMBLY	RESTRICTED FLOW
	OMS-221	CROSSFEED PROPELLANT LINES AND MECHANICAL FITTINGS	RESTRICTED FLOW, BLOCKAGE
	OMS-222	CROSSFEED PROPELLANT LINES AND MECHANICAL FITTINGS	RESTRICTED FLOW, BLOCKAGE
	OMS-230	VALVE-CROSSFEED	OUT OF TOLERANCE, RELIEF VALVE FAILS CLOSED
	OMS-238	PROPELLANT LINES AND MECHANICAL FITTINGS-MMH AND NTO	RESTRICTED FLOW, BLOCKAGE
	OMS-240	GIMBAL BELLOWS	OUT OF TOLERANCE, PHYSICAL BINDING/JAMMING
	OMS-241	GIMBAL BELLOWS	RESTRICTED FLOW
	OMS-243	GIMBAL BELLOWS	OUT OF TOLERANCE, PHYSICAL BINDING/JAMMING
	OMS-244	GIMBAL BELLOWS	RESTRICTED FLOW
	OMS-246	ALIGNMENT BELLOWS	OUT OF TOLERANCE, PHYSICAL BINDING/JAMMING
	OMS-247	ALIGNMENT BELLOWS	RESTRICTED FLOW
	OMS-251	BELLOWS-TVC GIMBAL	OUT OF TOLERANCE, PHYSICAL BINDING/JAMMING
	OMS-252	BELLOWS-TVC GIMBAL	RESTRICTED FLOW
	OMS-262	VALVE - BIPROP CAVITY PRESSURE RELIEF	FAILS TO OPEN, AT SPECIFIED PSID
	OMS-263	VALVE - BIPROP CAVITY PRESSURE RELIEF	FAILS TO CLOSE, VALVE FAILS TO RESEAT
	OMS-265	VALVE - BIPROP CAVITY PRESSURE RELIEF	STRUCTURAL FAILURE, EXTERNAL LEAKAGE
	OMS-272	OME ALIGNMENT BELLOWS	RESTRICTED FLOW
	OMS-276	PROPELLANT LINES AND MECHANICAL FITTINGS-MMH AND NTO	RESTRICTED FLOW, BLOCKAGE
	OMS-298	PNEUMATIC PACK HOUSING ASSEMBLY	RESTRICTED FLOW, BLOCKAGE
	OMS-325	GN2 PRESSURE LINES AND MECHANICAL FITTINGS	RESTRICTED FLOW, BLOCKAGE
	OMS-330	VALVE-ENGINE CONTROL	RESTRICTED FLOW
	OMS-332	ORIFICE-ENGINE CONTROL VALVE INLET	RESTRICTED FLOW

APPENDIX D

IOA RECOMMENDED CRITICAL ITEMS - OMS HARDWARE

NASA FMEA NUMBER	ASSESSMENT ID NUMBER	ITEM	FAILURE MODE
	OMS-333	ORIFICE-ENGINE CONTROL VALVE VENT	RESTRICTED FLOW, INABILITY TO VENT GN2
	OMS-334	CHECK VALVE-ENGINE CONTROL VALVE VENT	FAILS TO OPEN
	OMS-335	CHECK VALVE-ENGINE CONTROL VALVE VENT	FAILS TO CLOSE
	OMS-336	CHECK VALVE-ENGINE CONTROL VALVE VENT	INTERNAL LEAKAGE
	OMS-342	PNEUMATIC ACTUATOR	INTERNAL/EXTERNAL LEAKAGE (PROPELLANT)
	OMS-373	ANTIBACK DEVICE	STRUCTURAL FAILURE, FRACTURE
	OMS-374	BEARING-GIMBAL THRUST DRIVE	STRUCTURAL FAILURE, FRACTURE

APPENDIX D

IOA RECOMMENDED CRITICAL ITEMS - OMS EPD&C

NASA FMEA NUMBER	ASSESSMENT ID NUMBER	ITEM	FAILURE MODE
03-3-2803-1	OMS-610	SENSOR TEMPERATURE, FUEL TANK LOWER	ERRONEOUS OUTPUT (OPEN, SHORT, WRONG VALUE)
	OMS-611	SENSOR TEMPERATURE, OX LOWER TANK	ERRONEOUS OUTPUT (OPEN, SHORT, WRONG VALUE)
03-3-2804-1	OMS-994A	CENTER - AFT FUSLG OXIDIZER XFEED LINE TEMP SENSOR	ERRONEOUS OUTPUT (OPEN, SHORT, WRONG VALUE)
	OMS-997A	LEFT - AFT FUSLG OXIDIZER XFEED LINE TEMP SENSOR	ERRONEOUS OUTPUT (OPEN, SHORT, WRONG VALUE)
	OMS-998A	LEFT AFT OXIDIZER XFEED LINE TEMP SENSOR	ERRONEOUS OUTPUT (OPEN, SHORT, WRONG VALUE)
	OMS-1001A	RIGHT - AFT FUSLG OXIDIZER XFEED LINE TEMP SENSOR	ERRONEOUS OUTPUT (OPEN, SHORT, WRONG VALUE)
	OMS-1002A	RIGHT AFT OXIDIZER XFEED LINE TEMP SENSOR	ERRONEOUS OUTPUT (OPEN, SHORT, WRONG VALUE)
03-3-4802-1	OMS-698	SENSOR TEMPERATURE ENGINE FUEL FEED LINE	ERRONEOUS OUTPUT (OPEN, SHORT, WRONG VALUE)
03-3-7001-1	OMS-782	HEATER, LT/RT ENG SERV PNL GROUP 1	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-783	HEATER, LT/RT ENG SERV PNL GROUP 1	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-784	HEATER, LT/RT ENG SERV PNL GROUP 2	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-785	HEATER, LT/RT ENG SERV PNL GROUP 2	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-786	HEATER, LT/RT GSE SERVICE PNL GROUP 1	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-787	HEATER, LT/RT GSE SERVICE PNL GROUP 1	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-788	HEATER, LT/RT GSE SERVICE PNL GROUP 2	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-789	HEATER, LT/RT GSE SERVICE PNL GROUP 2	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-790	HEATER, LT/RT LOWER INBD Y WEB GROUP 1	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-791	HEATER, LT/RT LOWER INBD Y WEB GROUP 1	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-792	HEATER, LT/RT LOWER INBD Y WEB GROUP 2	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-793	HEATER, LT/RT LOWER INBD Y WEB GROUP 2	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-794	HEATER, LT/RT OME COMPT GROUP 1	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-795	HEATER, LT/RT OME COMPT GROUP 1	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-797	HEATER, LT/RT OME COMPT GROUP 2	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-806	HEATER, LT/RT OMS KEEL WEB GROUP 1	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-807	HEATER, LT/RT OMS KEEL WEB GROUP 1	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-808	HEATER, LT/RT OMS KEEL WEB GROUP 2	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-809	HEATER, LT/RT OMS KEEL WEB GROUP 2	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-815	HEATER, LT/RT OX PRESS PNL GROUP 1	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-817	HEATER, LT/RT OX PRESS PNL GROUP 2	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-818	HEATER, LT/RT RCS HOUSING DRAIN PNL GROUP 1	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-819	HEATER, LT/RT RCS HOUSING DRAIN PNL GROUP 1	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-820	HEATER, LT/RT RCS HOUSING DRAIN PNL GROUP 2	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-821	HEATER, LT/RT RCS HOUSING DRAIN PNL GROUP 2	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-822	HEATER, LT/RT RCS HOUSING PITCH DN GROUP 1	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-823	HEATER, LT/RT RCS HOUSING PITCH DN GROUP 1	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-824	HEATER, LT/RT RCS HOUSING PITCH DN GROUP 2	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-825	HEATER, LT/RT RCS HOUSING PITCH DN GROUP 2	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-826	HEATER, LT/RT RCS HOUSING PITCH UP GROUP 1	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-827	HEATER, LT/RT RCS HOUSING PITCH UP GROUP 1	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-828	HEATER, LT/RT RCS HOUSING PITCH UP GROUP 2	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-829	HEATER, LT/RT RCS HOUSING PITCH UP GROUP 2	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-830	HEATER, LT/RT RCS HOUSING VERNIER GROUP 1	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-831	HEATER, LT/RT RCS HOUSING VERNIER GROUP 1	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-832	HEATER, LT/RT RCS HOUSING VERNIER GROUP 2	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-833	HEATER, LT/RT RCS HOUSING VERNIER GROUP 2	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-834	HEATER, LT/RT RCS HOUSING YAW GROUP 1	FAILS OPEN, FAILS TO PROVIDE HEAT

APPENDIX D

IOA RECOMMENDED CRITICAL ITEMS - OMS EPD&C

NASA FMEA NUMBER	ASSESSMENT ID NUMBER	ITEM	FAILURE MODE
03-3-7001-1	OMS-835	HEATER, LT/RT RCS HOUSING YAW GROUP 1	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
	OMS-836	HEATER, LT/RT RCS HOUSING YAW GROUP 2	FAILS OPEN, FAILS TO PROVIDE HEAT
	OMS-837	HEATER, LT/RT RCS HOUSING YAW GROUP 2	FAILS SHORT, SHORTS TO MOUNTING, SO OPENS
03-3-7002-1	OMS-1003	FUEL & OXIDIZER FLEX LINE OVER TEMP (LT DECK)	FAILS OPEN
	OMS-1005	FUEL & OXIDIZER FLEX LINE OVER TEMP (RT DECK)	FAILS OPEN
	OMS-1007	FUEL & OXIDIZER LOWER CENTER FEED LINE OVER TEMP	FAILS OPEN
	OMS-1011	FUEL & OXIDIZER LOWER LEFT FEED LINE OVER TEMP	FAILS OPEN
	OMS-1015	FUEL & OXIDIZER LOWER RIGHT FEED LINE OVER TEMP	FAILS OPEN
03-3-7002-2	OMS-895	THERMAL SWITCH, LT/RT GSE SERVICE PNL GROUP 1	FAILS SHORT
	OMS-897	THERMAL SWITCH, LT/RT GSE SERVICE PNL GROUP 2	FAILS SHORT
	OMS-899	THERMAL SWITCH, LT/RT KEEL WEB HEATER SYSTEM GROUP 1	FAILS SHORT
	OMS-901	THERMAL SWITCH, LT/RT KEEL WEB HEATER SYSTEM GROUP 2	FAILS SHORT
	OMS-903	THERMAL SWITCH, LT/RT LOWER INBOARD Y WEB GROUP 1	FAILS SHORT
	OMS-905	THERMAL SWITCH, LT/RT LOWER INBOARD Y WEB GROUP 2	FAILS SHORT
	OMS-907	THERMAL SWITCH, LT/RT OME COMPT GROUP 1	FAILS SHORT
	OMS-909	THERMAL SWITCH, LT/RT OME COMPT GROUP 2	FAILS SHORT
	OMS-911	THERMAL SWITCH, LT/RT OME COVER GROUP 1	FAILS SHORT
	OMS-913	THERMAL SWITCH, LT/RT OME COVER GROUP 2	FAILS SHORT
	OMS-915	THERMAL SWITCH, LT/RT RCS HOUSING GROUP 1	FAILS SHORT
	OMS-917	THERMAL SWITCH, LT/RT RCS HOUSING GROUP 2	FAILS SHORT
	OMS-919	THERMAL SWITCH, LT/RT UPPER INBOARD Y-WEB GROUP 1	FAILS SHORT
	OMS-921	THERMAL SWITCH, LT/RT UPPER INBOARD Y-WEB GROUP 2	FAILS SHORT
	OMS-923	THERMAL SWITCH, LT/RT UPPER OUTBOARD Y WEB GROUP 1	FAILS SHORT
	OMS-925	THERMAL SWITCH, LT/RT UPPER OUTBOARD Y WEB GROUP 2	FAILS SHORT
	OMS-1004	FUEL & OXIDIZER FLEX LINE OVER TEMP (LT DECK)	FAILS SHORT
	OMS-1006	FUEL & OXIDIZER FLEX LINE OVER TEMP (RT DECK)	FAILS SHORT
	OMS-1008	FUEL & OXIDIZER LOWER CENTER FEED LINE OVER TEMP	FAILS SHORT
	OMS-1010	FUEL & OX LOWER CENTER XFEED LINE CONTROL TEMP	FAILS SHORT
	OMS-1012	FUEL & OXIDIZER LOWER LEFT FEED LINE OVER TEMP	FAILS SHORT
	OMS-1016	FUEL & OXIDIZER LOWER RIGHT FEED LINE OVER TEMP	FAILS SHORT
	OMS-1024	FUEL HI PT BLEED LINE OVER TEMP	FAILS SHORT
	OMS-1026	FUEL HI PT BLEED LINE T-4 UMB OVER TEMP	FAILS SHORT
	OMS-1030	L FUEL & OXIDIZER LO PT BLEED LINE OVER TEMP	FAILS SHORT
	OMS-1038	OXIDIZER HI PT BLEED LINE OVER TEMP	FAILS SHORT
	OMS-1040	OXIDIZER HI PT BLEED LINE T-4 UMB OVER TEMP	FAILS SHORT
	OMS-1044	R FUEL & OXIDIZER LO PT BLEED LINE OVER TEMP	FAILS SHORT
03-3-7011-1	OMS-952	FUEL & OX LOWER CENTER FEED LINE (XFEED) HEATER A/B	FAILS OPEN
	OMS-953	FUEL & OX LOWER CENTER FEED LINE (XFEED) HEATER A/B	FAILS SHORT
	OMS-954	FUEL & OX LOWER LEFT FEED LINE (XFEED) HEATER A/B	FAILS OPEN
	OMS-955	FUEL & OX LOWER LEFT FEED LINE (XFEED) HEATER A/B	FAILS SHORT
	OMS-956	FUEL & OX LOWER RIGHT FEED LINE (XFEED) HEATER A/B	FAILS OPEN
	OMS-957	FUEL & OX LOWER RIGHT FEED LINE (XFEED) HEATER A/B	FAILS SHORT
	OMS-964	LEFT FUEL AND OXIDIZER FLEX LINE HEATERS (A/B)	FAILS OPEN
	OMS-965	LEFT FUEL AND OXIDIZER FLEX LINE HEATERS (A/B)	FAILS SHORT
	OMS-972	RIGHT FUEL AND OXIDIZER FLEX LINE HEATERS (A/B)	FAILS OPEN
	OMS-973	RIGHT FUEL AND OXIDIZER FLEX LINE HEATERS (A/B)	FAILS SHORT

APPENDIX D

IOA RECOMMENDED CRITICAL ITEMS - OMS EPD&C

NASA FMEA NUMBER	ASSESSMENT ID NUMBER	ITEM	FAILURE MODE
03-3-7801-1	OMS-994	CENTER - AFT FUSLG OXIDIZER XFEED LINE TEMP SENSOR	ERRONEOUS OUTPUT (OPEN, SHORT, WRONG VALUE)
	OMS-997	LEFT - AFT FUSLG OXIDIZER XFEED LINE TEMP SENSOR	ERRONEOUS OUTPUT (OPEN, SHORT, WRONG VALUE)
	OMS-998	LEFT AFT OXIDIZER XFEED LINE TEMP SENSOR	ERRONEOUS OUTPUT (OPEN, SHORT, WRONG VALUE)
	OMS-1001	RIGHT - AFT FUSLG OXIDIZER XFEED LINE TEMP SENSOR	ERRONEOUS OUTPUT (OPEN, SHORT, WRONG VALUE)
	OMS-1002	RIGHT AFT OXIDIZER XFEED LINE TEMP SENSOR	ERRONEOUS OUTPUT (OPEN, SHORT, WRONG VALUE)
03-3-8001-1	OMS-21001X	DEDICATED SIGNAL CONDITIONER	FAILS OPEN, ONE CIRCUIT PATH
05-6L-2006-1	OMS-645	FUSE, 1A	FAILS OPEN
	OMS-647	FUSE, 1A	FAILS OPEN
05-6L-2007-1	OMS-644	FUSE, 1A	FAILS OPEN
	OMS-646	FUSE, 1A	FAILS OPEN
05-6L-2015-1	OMS-648	FUSE, 3A	FAILS OPEN
	OMS-649	FUSE, 3A	FAILS OPEN
	OMS-650	FUSE, 3A	FAILS OPEN
	OMS-651	FUSE, 3A	FAILS OPEN
05-6L-2026-1	OMS-440	SWITCH TOGGLE, LT/RT OMS HE PRESS VAPOR ISOL VLV A	FAILS TO SWITCH (STUCK IN GPC POSITION)
	OMS-443	SWITCH TOGGLE, LT/RT OMS HE PRESS VAPOR ISOL VLV B	FAILS TO SWITCH (STUCK IN GPC POSITION)
05-6L-2026-2	OMS-439	SWITCH TOGGLE, LT/RT OMS HE PRESS VAPOR ISOL VLV A	FAILS TO SWITCH (STUCK IN CLOSE POSITION)
	OMS-441	SWITCH TOGGLE, LT/RT OMS HE PRESS VAPOR ISOL VLV B	FAILS TO SWITCH (STUCK IN CLOSE POSITION)
05-6L-2027-2	OMS-594	SWITCH TOGGLE LT/RT	FAILS TO SWITCH (STUCK IN CLOSED POSITION)
	OMS-597	SWITCH TOGGLE LT/RT	FAILS TO SWITCH (STUCK IN CLOSED POSITION)
05-6L-2029-1	OMS-674	SWITCH, OMS LT/RT ENG ARM/PRESS (C3A1, S1/S2)	FAILS TO SWITCH (STUCK IN OFF POSITION)
05-6L-2029-2	OMS-672	SWITCH, OMS LT/RT ENG ARM/PRESS (C3A1, S1/S2)	FAILS TO SWITCH (STUCK IN ARM/PRESS POS.)
	OMS-673	SWITCH, OMS LT/RT ENG ARM/PRESS (C3A1, S1/S2)	FAILS TO SWITCH (STUCK IN ARM POSITION)
05-6L-2030-1	OMS-675	SWITCH, OMS LT/RT ENG CONTROL VLV	FAILS TO SWITCH (STUCK IN OFF POSITION)
05-6L-2030-2	OMS-676	SWITCH, OMS LT/RT ENG CONTROL VLV	FAILS TO SWITCH (STUCK IN ON POSITION)
05-6L-2031-2	OMS-926	SWITCH, TOGGLE RCS/OMS HEATER LT/RT POD GROUP1	FAILS TO SWITCH (STUCK IN ON POSITION)
	OMS-927	SWITCH, TOGGLE RCS/OMS HEATER LT/RT POD GROUP 2	FAILS TO SWITCH (STUCK IN ON POSITION)
05-6L-2078-1	OMS-530	RESISTOR, 5.1K 1/4W	FAILS OPEN
	OMS-537	RESISTOR, 5.1K 1/4W	FAILS OPEN
	OMS-576	RESISTOR, 5.1K 1/4W	FAILS OPEN
	OMS-584	RESISTOR, 5.1K 1/4W	FAILS OPEN
05-6L-2079-2	OMS-572	RESISTOR, 1.2K 2W	FAILS OPEN
	OMS-578	RESISTOR, 1.2K 1/4W	FAILS OPEN
05-6L-2079A-2	OMS-526	RESISTOR, 1.2K 2W	FAILS OPEN
	OMS-532	RESISTOR, 1.2K 2W	FAILS OPEN
	OMS-570	RESISTOR, 1.2K 2W	FAILS OPEN
	OMS-580	RESISTOR, 1.2K 2W	FAILS OPEN
05-6L-2082-1	OMS-518	RESISTOR, 5.1K 1/4W	FAILS OPEN
	OMS-524	RESISTOR, 5.1K 1/4W	FAILS OPEN
	OMS-562	RESISTOR, 5.1K 1/4W	FAILS OPEN
	OMS-568	RESISTOR, 5.1K 1/4W	FAILS OPEN
05-6L-2083-1	OMS-514	RESISTOR, 1.2K 1/4W	FAILS OPEN
	OMS-520	RESISTOR, 1.2K 1/4W	FAILS OPEN
	OMS-558	RESISTOR, 1.2K 1/4W	FAILS OPEN
	OMS-564	RESISTOR, 1.2K 1/4W	FAILS OPEN
05-6L-2083A-1	OMS-538	RESISTOR, 1.2K 1/4W	FAILS OPEN

APPENDIX D

IOA RECOMMENDED CRITICAL ITEMS - OMS EPD&C

NASA FMEA NUMBER	ASSESSMENT ID NUMBER	ITEM	FAILURE MODE
05-6L-2083A-1	OMS-544	RESISTOR, 1.2K 1/4W	FAILS OPEN
05-6L-2086-1	OMS-662	RESISTOR, 5.1K 1/4W	FAILS OPEN
	OMS-664	RESISTOR, 5.1K 1/4W	FAILS OPEN
	OMS-667	RESISTOR, 5.1K 1/4W	FAILS OPEN
	OMS-670	RESISTOR, 5.1K 1/4W	FAILS OPEN
05-6L-2126-1	OMS-492	RELAY	FAILS OPEN (RELAY FAILS TO ENERGIZE)
	OMS-496	RELAY	FAILS OPEN (RELAY FAILS TO ENERGIZE)
	OMS-508	RELAY	FAILS OPEN (RELAY FAILS TO ENERGIZE)
	OMS-513	RELAY	FAILS OPEN (RELAY FAILS TO ENERGIZE)
05-6L-2130-1	OMS-482	RELAY	FAILS OPEN (FAILS TO ENERGIZE)
	OMS-484	RELAY	FAILS OPEN
	OMS-486	RELAY	FAILS OPEN (FAILS TO ENERGIZE)
	OMS-488	RELAY	FAILS OPEN (FAILS TO ENERGIZE)
	OMS-498	RELAY	FAILS OPEN (FAILS TO ENERGIZE)
	OMS-500	RELAY	FAILS OPEN (FAILS TO ENERGIZE)
	OMS-502	RELAY	FAILS OPEN (FAILS TO ENERGIZE)
	OMS-504	RELAY	FAILS OPEN (FAILS TO ENERGIZE)
05-6L-2134-2	OMS-846	RELAY	FAILS HIGH (ENERGIZED POSITION)
	OMS-848	RELAY	FAILS HIGH
	OMS-850	RELAY	FAILS HIGH (FAILS ENERGIZED)
	OMS-852	RELAY	FAILS HIGH
05-6L-2136-2	OMS-976	RELAY	FAILS HIGH
05-6L-2176-2	OMS-399	CONTROLLER, REMOTE POWER	FAILS HIGH
05-6L-2206-1	OMS-632	DRIVER, HYBRID	FAILS OPEN
	OMS-640	DRIVER, HYBRID	FAILS OPEN
05-6L-2206-2	OMS-633	DRIVER, HYBRID	FAILS HIGH
	OMS-641	DRIVER, HYBRID	FAILS HIGH
05-6L-2207-1	OMS-626	DRIVER, HYBRID	FAILS OPEN
	OMS-628	DRIVER, HYBRID	FAILS OPEN
	OMS-630	DRIVER, HYBRID	FAILS OPEN
	OMS-634	DRIVER, HYBRID	FAILS OPEN
	OMS-636	DRIVER, HYBRID	FAILS OPEN
	OMS-638	DRIVER, HYBRID	FAILS OPEN
05-6L-2207-2	OMS-631	DRIVER, HYBRID	FAILS HIGH
	OMS-639	DRIVER, HYBRID	FAILS HIGH
05-6L-2209-1	OMS-622	DRIVER, HYBRID	FAILS OPEN
	OMS-624	DRIVER, HYBRID	FAILS OPEN
05-6L-2210-2	OMS-706	DRIVER, HYBRID	FAILS HIGH
	OMS-708	DRIVER, HYBRID	FAILS HIGH
	OMS-710	DRIVER, HYBRID	FAILS HIGH
	OMS-712	DRIVER, HYBRID	FAILS HIGH
	OMS-714	DRIVER, HYBRID	FAILS HIGH
	OMS-715	DRIVER, HYBRID	FAILS HIGH
	OMS-718	DRIVER, HYBRID	FAILS HIGH
	OMS-720	DRIVER, HYBRID	FAILS HIGH
	OMS-722	DRIVER, HYBRID	FAILS HIGH

APPENDIX D

IOA RECOMMENDED CRITICAL ITEMS - OMS EPD&C

NASA FMEA NUMBER	ASSESSMENT ID NUMBER	ITEM	FAILURE MODE
05-6L-2210-2	OMS-724	DRIVER, HYBRID	FAILS HIGH
	OMS-726	DRIVER, HYBRID	FAILS HIGH
	OMS-728	DRIVER, HYBRID	FAILS HIGH
	OMS-730	DRIVER, HYBRID	FAILS HIGH
	OMS-732	DRIVER, HYBRID	FAILS HIGH
	OMS-734	DRIVER, HYBRID	FAILS HIGH
	OMS-736	DRIVER, HYBRID	FAILS HIGH
	OMS-738	DRIVER, HYBRID	FAILS HIGH
	OMS-740	DRIVER, HYBRID	FAILS HIGH
	OMS-742	DRIVER, HYBRID	FAILS HIGH
	OMS-744	DRIVER, HYBRID	FAILS HIGH
	OMS-746	DRIVER, HYBRID	FAILS HIGH
	OMS-748	DRIVER, HYBRID	FAILS HIGH
05-6L-2251-1	OMS-416	DIODE	FAILS OPEN (LOSS OF OUTPUT)
	OMS-418	DIODE	FAILS OPEN (LOSS OF OUTPUT)
05-6L-2251-2	OMS-417	DIODE	FAILS SHORT
	OMS-419	DIODE	FAILS SHORT
05-6L-2252-1	OMS-410	DIODE	FAILS OPEN
05-6L-2252-2	OMS-411	DIODE	FAILS SHORT
05-6L-2253-1	OMS-450	DIODE	FAILS OPEN
	OMS-452	DIODE	FAILS OPEN
05-6L-2253-2	OMS-451	DIODE	FAILS SHORT
	OMS-453	DIODE	FAILS SHORT
05-6L-2253A-1	OMS-450A	DIODE	FAILS OPEN
	OMS-452A	DIODE	FAILS OPEN
05-6L-2253A-2	OMS-451A	DIODE	FAILS SHORT
	OMS-453A	DIODE	FAILS SHORT
05-6L-2253B-1	OMS-450B	DIODE	FAILS OPEN
	OMS-452B	DIODE	FAILS OPEN
05-6L-2253B-2	OMS-451B	DIODE	FAILS SHORT
	OMS-453B	DIODE	FAILS SHORT
05-6L-2253C-1	OMS-450C	DIODE	FAILS OPEN
	OMS-452C	DIODE	FAILS OPEN
05-6L-2253D-1	OMS-450D	DIODE	FAILS OPEN
	OMS-452D	DIODE	FAILS OPEN
05-6L-2255-1	OMS-450E	DIODE	FAILS OPEN
	OMS-452E	DIODE	FAILS OPEN
05-6L-2256-1	OMS-450F	DIODE	FAILS OPEN
	OMS-452F	DIODE	FAILS OPEN
05-6L-2256A-1	OMS-450G	DIODE	FAILS OPEN
	OMS-452G	DIODE	FAILS OPEN
05-6L-2256B-2	OMS-451C	DIODE	FAILS SHORT
	OMS-453C	DIODE	FAILS SHORT
05-6L-2257-1	OMS-454	DIODE	FAILS OPEN
	OMS-456	DIODE	FAILS OPEN

APPENDIX D

IOA RECOMMENDED CRITICAL ITEMS - OMS EPD&C

NASA FMEA NUMBER	ASSESSMENT ID NUMBER	ITEM	FAILURE MODE
05-6L-2257-2	OMS-455	DIODE	FAILS SHORT
05-6L-2257-2	OMS-457	DIODE	FAILS SHORT
05-6L-2257A-1	OMS-454A	DIODE	FAILS OPEN
	OMS-456A	DIODE	FAILS OPEN
05-6L-2257A-2	OMS-455A	DIODE	FAILS SHORT
	OMS-457A	DIODE	FAILS SHORT
05-6L-2257B-1	OMS-454B	DIODE	FAILS OPEN
	OMS-456B	DIODE	FAILS OPEN
05-6L-2257B-2	OMS-455B	DIODE	FAILS SHORT
	OMS-457B	DIODE	FAILS SHORT
05-6L-2257C-1	OMS-454C	DIODE	FAILS OPEN
	OMS-456C	DIODE	FAILS OPEN
05-6L-2257D-1	OMS-454D	DIODE	FAILS OPEN
	OMS-456D	DIODE	FAILS OPEN
05-6L-2258-1	OMS-454E	DIODE	FAILS OPEN
	OMS-456E	DIODE	FAILS OPEN
05-6L-2259-1	OMS-454F	DIODE	FAILS OPEN
	OMS-456F	DIODE	FAILS OPEN
05-6L-2260-1	OMS-454G	DIODE	FAILS OPEN
	OMS-456G	DIODE	FAILS OPEN
05-6L-2260A-1	OMS-454H	DIODE	FAILS OPEN
	OMS-456H	DIODE	FAILS OPEN
05-6L-2260B-2	OMS-454I	DIODE	FAILS OPEN
	OMS-456I	DIODE	FAILS OPEN
NONE	OMS-517	RESISTOR, 12K 1/4W	FAILS SHORT
	OMS-523	RESISTOR, 12K 1/4W	FAILS SHORT
	OMS-528	RESISTOR, 12K 1/4W	FAILS SHORT
	OMS-535	RESISTOR, 12K 1/4W	FAILS SHORT
	OMS-561	RESISTOR, 12K 1/4W	FAILS SHORT
	OMS-567	RESISTOR, 12K 1/4W	FAILS SHORT
	OMS-575	RESISTOR, 12K 1/4W	FAILS SHORT
	OMS-583	RESISTOR, 12K 1/4W	FAILS SHORT
	OMS-661	RESISTOR, 5.1K 1/4W	FAILS SHORT
	OMS-666	RESISTOR, 5.1K 1/4W	FAILS SHORT
	OMS-689	SENSOR PRESSURE, OMS ENGINE REG OUT	ERRONEOUS OUTPUT (OPEN, SHORT, WRONG VALUE)

APPENDIX E
DETAILED ANALYSIS

This appendix contains the IOA analysis worksheets supplementing previous results reported in STSEOS Working Paper 1.0-WP-VA86001-21, Analysis of the Orbital Maneuvering Subsystem (OMS), (12 January 1987). Prior results were obtained independently and documented before starting the FMEA/CIL assessment activity. Supplemental analysis was performed to address failure modes not previously considered by the IOA. Each sheet identifies the hardware item being analyzed, parent assembly and function performed. For each failure mode possible causes are identified, and hardware and functional criticality for each mission phase are determined as described in NSTS 22206, Instructions for Preparation of FMEA and CIL, 10 October 1986. Failure mode effects are described at the bottom of each sheet and worst case criticality is identified at the top.

LEGEND FOR IOA ANALYSIS WORKSHEETS

Hardware Criticalities:

- 1 = Loss of life or vehicle
- 2 = Loss of mission or next failure of any redundant item (like or unlike) could cause loss of life/vehicle
- 3 = All others

Functional Criticalities:

- 1R = Redundant hardware items (like or unlike) all of which, if failed, could cause loss of life or vehicle.
- 2R = Redundant hardware items (like or unlike) all of which, if failed, could cause loss of mission.

Redundancy Screen A:

- 1 = Is Checked Out PreFlight
- 2 = Is Capable of Check Out PreFlight
- 3 = Not Capable of Check Out PreFlight
- NA = Not Applicable

Redundancy Screens B and C:

- P = Passed Screen
- F = Failed Screen
- NA = Not Applicable

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 5/28/87 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: OMS FLIGHT: 2/1R
MDAC ID: 20001 ABORT: 2/1R

ITEM: GN2 FILTER
FAILURE MODE: STRUCTURAL FAILURE, CONTAMINATION PASSAGE

LEAD ANALYST: C.D. PRUST SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) HARDWARE COMPONENTS
2) ASSEMBLIES
3) OME SUBSYSTEM
4) GN2 ASSEMBLY
5) GN2 FILTER
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	2/1R
LIFTOFF:	3/2R	TAL:	2/1R
ONORBIT:	2/2	AOA:	3/3
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [3] B [P] C [P]

LOCATION:
PART NUMBER: 1181821

CAUSES: PIECE-PART STRUCTURAL FAILURE, MATERIAL DEFECT, MANUFACTURING DEFECT

EFFECTS/RATIONALE:
PASSAGE OF CONTAMINATION INTO REGULATOR MAY RESULT IN FAILURE OF REGULATOR. WITH FAILURE TO OPEN OF REGULATOR, ONE FAILURE (SAME FAILURE IN OTHER POD) AWAY FROM POSSIBLE LOSS OF LIFE/VEHICLE DUE TO INABILITY TO REPRESSURIZE ACCUMULATORS AND LOSS OF START CAPABILITY FOR BOTH ENGINES. FAILURE UNDETECTABLE UNTIL ENGINE LOST. CRIT 1/1 FOR MANUAL TAL CONTINGENCY OMS DUMP PURGE REQUIREMENT.

REFERENCES: 1) JSC 18958 2) MC621-0009
3) VS70-9431099, 43AD, BD, 4) JSC 11174, 11.3

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 9/08/87 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: OMS FLIGHT: 1/1
MDAC ID: 20002 ABORT: 1/1

ITEM: GIMBAL RING BEARING, GIMBAL RING/MOUNTING PAD ATTACHMENT
FAILURE MODE: STRUCTURAL FAILURE, DISATTACHMENT

LEAD ANALYST: C.D. PRUST SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) HARDWARE COMPONENTS
2) ASSEMBLIES
3) OME SUBSYSTEM
4) TVC ASSEMBLY
5) GIMBAL RING BEARING, GIMBAL RING/MOUNTING PAD ATTACHMENT
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	1/1	RTLS:	1/1
LIFTOFF:	1/1	TAL:	1/1
ONORBIT:	1/1	AOA:	1/1
DEORBIT:	1/1	ATO:	1/1
LANDING/SAFING:	1/1		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION:
PART NUMBER: MC621-0009

CAUSES: PIECE-PART STRUCTURAL FAILURE, IMPROPER ASSEMBLY, MECHANICAL SHOCK, VIBRATION, MATERIAL/MANUFACTURING DEFECT

EFFECTS/RATIONALE:
FIRST FAILURE IS POSSIBLE LOSS OF LIFE/VEHICLE DUE TO EXCESSIVE MOVEMENT OF ENGINE RESULTING IN POSSIBLE RUPTURE OF CONNECTING PROP LINES ALLOWING LOSS AND LEAKAGE OF PROP, FIRE/EXPLOSION HAZARD, AND HAZARD TO GROUND CREW.

REFERENCES: 1) MC621-0009 2) MC621-0059 3) JSC 12770
4) JSC 18958

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 8/19/87
SUBSYSTEM: OMS
MDAC ID: 20003

HIGHEST CRITICALITY HDW/FUNC
FLIGHT: 2/1R
ABORT: 1/1

ITEM: PINION GEAR AND DRIVE ASSEMBLY
FAILURE MODE: DELAYED OPERATION

LEAD ANALYST: C.D. PRUST SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) HARDWARE COMPONENTS
2) ASSEMBLIES
3) OME SUBSYSTEM
4) TVC ASSEMBLY
5) PINION GEAR AND DRIVE ASSEMBLY
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	1/1
LIFTOFF:	3/2R	TAL:	1/1
ONORBIT:	2/2	AOA:	3/3
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION:
PART NUMBER: MC621-0009

CAUSES: PIECE-PART STRUCTURAL FAILURE, IMPROPER ASSEMBLY, MATERIAL/MANUFACTURING DEFECT, CONTAMINATION, BINDING

EFFECTS/RATIONALE:
FIRST FAILURE MAY CAUSE LOW INITIAL FUEL AND OXID FLOW RATES TO ENGINE RESULTING IN POSSIBLE DAMAGE TO AND LOSS OF ENGINE (MANUAL SHUTDOWN REQUIRED). WITH FIRST FAILURE, ONE FAILURE (ASSEMBLY IN REDUNDANT POD) AWAY FROM POSSIBLE LOSS OF LIFE/VEHICLE DUE TO LOSS OF BOTH ENGINES. FIRST FAILURE DURING RTLS OR TAL IS POSSIBLE LOSS OF LIFE/VEHICLE DUE TO LOSS OF ONE ENGINE AND POSSIBLE INABILITY TO COMPLETE TIME-CRITICAL OMS DUMP.

REFERENCES: 1) JSC 18958 2) MC621-0009 3) VS70-943099, 43AD, BD 4) 1181710 5) JSC 11174, 11.3 6) JSC 12770

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 8/20/87
SUBSYSTEM: OMS
MDAC ID: 20004

HIGHEST CRITICALITY HDW/FUNC
FLIGHT: 3/1R
ABORT: 3/1R

ITEM: VALVE - PRESSURE RELIEF ASSEMBLY
FAILURE MODE: RESTRICTED FLOW

LEAD ANALYST: C.D. PRUST SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) HARDWARE COMPONENTS
2) ASSEMBLIES
3) PROP STOR & DIST SUBSYSTEM
4) PRESSURE RELIEF ASSEMBLY
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/1R	RTLS:	3/1R
LIFTOFF:	3/1R	TAL:	3/1R
ONORBIT:	3/1R	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	3/1R		

REDUNDANCY SCREENS: A [2] B [NA] C [P]

LOCATION:
PART NUMBER: MC284-0421-0015, -0016

CAUSES: CONTAMINATION, FILTER BLOCKAGE

EFFECTS/RATIONALE:
FIRST FAILURE IS NO EFFECT. LOSS OF ALL REDUNDANCY (REGS) RESULTS IN POSSIBLE LOSS OF LIFE/VEHICLE DUE TO OVERPRESSURIZATION AND POSSIBLE RUPTURE OF PROP TANKS AND LINES RESULTING IN FIRE/EXPLOSION HAZARD AND HAZARD TO GROUND CREW.

REFERENCES: 1) 73A000014, #213, 214 2) VS70-431099 3) MC284-0421 4) VS70-943099, 43AA, BA 5) JSC 11174, 11.3 6) JSC 12770

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 8/20/87 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: OMS FLIGHT: 1/1
MDAC ID: 20005 ABORT: 1/1

ITEM: VALVE - BIPROP CAVITY PRESSURE RELIEF
FAILURE MODE: RESTRICTED FLOW

LEAD ANALYST: C.D. PRUST SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) HARDWARE COMPONENTS
2) ASSEMBLIES
3) OME SUBSYSTEM
4) OME ASSEMBLY
5) BIPROP CAVITY PRESSURE RELIEF VALVE
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	1/1
LIFTOFF:	1/1	TAL:	1/1
ONORBIT:	1/1	AOA:	1/1
DEORBIT:	1/1	ATO:	1/1
LANDING/SAFING:	1/1		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION:
PART NUMBER: MC621-0009

CAUSES: CONTAMINATION, FILTER BLOCKAGE

EFFECTS/RATIONALE:
FIRST FAILURE OF POSSIBLE LOSS OF LIFE/VEHICLE. INABILITY TO RELIEVE OVERPRESSURIZATION OF BIPROP VALVE CAVITY MAY RESULT IN STRUCTURAL FAILURE OF THE BIPROP VALVE HOUSING, LOSS AND LEAKAGE OF PROP, FIRE/EXPLOSION HAZARD, AND HAZARD TO GROUND CREW.

REFERENCES: 1) MC621-0009 2) JSC 11174, 11.3 3) VS70-943099, 43AD, BD

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 9/08/87
SUBSYSTEM: OMS
MDAC ID: 20006

HIGHEST CRITICALITY HDW/FUNC
FLIGHT: 2/1R
ABORT: 1/1

ITEM: PINION GEAR & DRIVE ASSEMBLY
FAILURE MODE: FAILS MID-TRAVEL, PARTIALLY OPEN/CLOSED

LEAD ANALYST: C.D. PRUST SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) HARDWARE COMPONENTS
2) ASSEMBLIES
3) OME SUBSYSTEM
4) GN2 ASSEMBLY
5) PINION GEAR & DRIVE ASSEMBLY
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	1/1
LIFTOFF:	3/2R	TAL:	1/1
ONORBIT:	2/2	AOA:	3/3
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION:
PART NUMBER: MC621-0009

CAUSES: PIECE-PART STRUCTURAL FAILURE, INADEQUATE LUBRICATION, MATERIAL/MANUFACTURING DEFECT, MECHANICAL SHOCK, CONTAMINATION

EFFECTS/RATIONALE:
FIRST FAILURE RESULTS IN LOSS OF AFFECTED ENGINE. WITH FIRST FAILURE, ONE FAILURE (SAME FAILURE IN OTHER POD) AWAY FROM LOSS OF LIFE/VEHICLE DUE TO LOSS OF BOTH ENGINES. FIRST FAILURE DURING RTLS OR TAL IS POSSIBLE LOSS OF LIFE/VEHICLE DUE TO LOSS OF ONE ENGINE AND POSSIBLE INABILITY TO COMPLETE TIME-CRITICAL OMS DUMP.

REFERENCES: 1) JSC 18958 2) MC621-0009 3) VS70-943099, 43AD, BD 4) 1181710 5) JSC 11174, 11.3 6) JSC 12770

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 7/22/87 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: OMS FLIGHT: 3/1R
MDAC ID: 20007 ABORT: 3/1R

ITEM: BEARING - SECONDARY DRIVE GEAR
FAILURE MODE: PHYSICAL BINDING/JAMMING

LEAD ANALYST: C.D. PRUST SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) HARDWARE COMPONENTS
2) ASSEMBLIES
3) OME SUBSYSTEM
4) TVC ASSEMBLY
5) ACTUATOR
6) BEARING - SECONDARY DRIVE GEAR
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/2R	TAL:	3/3
ONORBIT:	3/2R	AOA:	3/3
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION:
PART NUMBER: MC621-0009

CAUSES: PIECE-PART STRUCTURAL FAILURE, INADEQUATE LUBRICATION, MATERIAL DEFECT, MANUFACTURING DEFECT

EFFECTS/RATIONALE:
FIRST FAILURE RESULTS IN LOSS OF SECONDARY CHANNEL DUE TO INABILITY TO DRIVE NUT TUBE. LOSS OF ALL REDUNDANCY IS POSSIBLE LOSS OF LIFE/VEHICLE DUE TO LOSS OF BOTH OMS ENGINES. RCS USAGE REQUIRED TO MAINTAIN ATTITUDE CONTROL DURING OMS BURNS MAY BE EXCESSIVE.

REFERENCES: 1) MC621-0009 2) MC621-0059 3) JSC 11174, 9.13, 4) JSC 12770 5) JSC 18958

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 7/22/87
SUBSYSTEM: OMS
MDAC ID: 20008

HIGHEST CRITICALITY HDW/FUNC
FLIGHT: 2/1R
ABORT: 1/1

ITEM: BEARING - SECONDARY DRIVE GEAR
FAILURE MODE: STRUCTURAL FAILURE

LEAD ANALYST: C.D. PRUST SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) HARDWARE COMPONENTS
2) ASSEMBLIES
3) OME SUBSYSTEM
4) TVC ASSEMBLY
5) ACTUATOR
6) BEARING - SECONDARY DRIVE GEAR
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/2R	TAL:	1/1
ONORBIT:	2/2	AOA:	3/3
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION:
PART NUMBER: MC621-0009

CAUSES: PIECE-PART STRUCTURAL FAILURE, MECHANICAL SHOCK, MATERIAL DEFECT, MANUFACTURING DEFECT

EFFECTS/RATIONALE:
FIRST FAILURE RESULT IN POSSIBLE LOSS OF TVC FOR ONE ENGINE. FAILURE MAY CAUSE BINDING/JAMMING OF GIMBAL DRIVE. WITH FIRST FAILURE, ONE FAILURE (SAME FAILURE IN OTHER POD) AWAY FROM POSSIBLE LOSS OF LIFE/VEHICLE DUE TO LOSS OF BOTH OMS ENGINES. RCS USAGE REQUIRED FOR ATTITUDE CONTROL DURING OMS BURNS MAY BE EXCESSIVE. CRIT 1/1 FOR TAL POST-MECO OMS DUMP.

REFERENCES: 1) MC621-0009 2) MC621-0059 3) JSC 12770 4) JSC 18958 5) JSC 11174, 9.13

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 9/14/87 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: OMS FLIGHT: 2/1R
MDAC ID: 20009 ABORT: 1/1

ITEM: DRIVE GEARS, PRIMARY AND SECONDARY
FAILURE MODE: STRUCTURAL FAILURE

LEAD ANALYST: C.D. PRUST SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) HARDWARE COMPONENTS
2) ASSEMBLIES
3) OME SUBSYSTEM
4) TVC ASSEMBLY
5) ACTUATOR
6) DRIVE GEARS, PRIMARY AND SECONDARY
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/2R	TAL:	1/1
ONORBIT:	2/2	AOA:	3/3
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION:
PART NUMBER: MC621-0009

CAUSES: PIECE-PART STRUCTURAL FAILURE, MECHANICAL SHOCK, GEAR STRIPPING, TOOTH FRACTURES, MATERIAL DEFECT, MANUFACTURING DEFECT

EFFECTS/RATIONALE:
FIRST FAILURE RESULTS IN POSSIBLE LOSS OF OR DEGRADED TVC FOR ONE OMS ENGINE. WITH FIRST FAILURE, ONE FAILURE (SAME FAILURE IN OTHER POD) AWAY FROM POSSIBLE LOSS OF LIFE/VEHICLE DUE TO LOSS OF BOTH OMS ENGINES. FIRST FAILURE DURING TAL IS POSSIBLE LOSS OF LIFE/VEHICLE DUE TO LOSS OF ONE ENGINE AND POSSIBLE INABILITY TO COMPLETE TIME-CRITICAL OMS DUMP POST-MECO.

REFERENCES: 1) MC621-0009 2) MC621-0059 3) JSC 12770 4) JSC 18958 5) JSC 11174, 9.13

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 9/14/87 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: OMS FLIGHT: 1/1
MDAC ID: 20010 ABORT: 1/1

ITEM: ENGINE/ACTUATOR AND ACTUATOR/VEHICLE ATTACH HARDWARE
FAILURE MODE: STRUCTURAL FAILURE, DISATTACHEMENT

LEAD ANALYST: C.D. PRUST SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) HARDWARE COMPONENTS
2) ASSEMBLIES
3) OME SUBSYSTEM
4) TVC ASSEMBLY
5) ACTUATOR
6) ENGINE/ACTURATOR AND ACTUATOR/VEHICLE ATTACH HARDWARE
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	1/1	RTLS:	1/1
LIFTOFF:	1/1	TAL:	1/1
ONORBIT:	1/1	AOA:	1/1
DEORBIT:	1/1	ATO:	1/1
LANDING/SAFING:	1/1		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION:
PART NUMBER: MC621-0009

CAUSES: PIECE-PART STRUCTURAL FAILURE, IMPROPER ASSEMBLY, MECHANICAL SHOCK, VIBRATION, MATERIAL/MANUFACTURING DEFECT

EFFECTS/RATIONALE:
FIRST FAILURE IS POSSIBLE LOSS OF LIFE/VEHICLE DUE TO UNRESTRAINED MOVEMENT OF ACTUATOR RESULTING IN POSSIBLE RUPTURE OF ENGINE PROP LINES, AND UNRESTRINED MOVEMENT OF AN OMS ENGINE IN ONE AHS.

REFERENCES: 1) MC621-0009 2) MC621-0059 3) JSC 12770 4) JSC 18958

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 9/14/87 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: OMS FLIGHT: 2/1R
MDAC ID: 20011 ABORT: 1/1

ITEM: BEARING - ACTUATOR/VEHICLE ATTACHMENT
FAILURE MODE: PHYSICAL BINDING/JAMMING

LEAD ANALYST: C.D. PRUST SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) HARDWARE COMPONENTS
2) ASSEMBLIES
3) OME SUBSYSTEM
4) TVC ASSEMBLY
5) ACTUATOR
6) ACTUATOR/VEHICLE ATTACHMENT BEARING
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/2R	TAL:	1/1
ONORBIT:	2/2	AOA:	3/3
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION:
PART NUMBER: MC621-0009

CAUSES: PIECE-PART STRUCTURAL FAILURE, IMPROPER ASSEMBLY, INADEQUATE LUBRICATION, MANUFACTURING/MATERIAL DEFECT

EFFECTS/RATIONALE:
FIRST FAILURE RESULTS IN LOSS OF OR DEGRADED TVC FOR ONE OMS ENGINE. WITH FIRST FAILURE, ONE FAILURE (SAME FAILURE IN OTHER POD) AWAY FROM POSSIBLE LOSS OF LIFE/VEHICLE DUE TO LOSS OF BOTH OMS ENGINES. FIRST FAILURE DURING TAL IS POSSIBLE LOSS OF LIFE/VEHICLE DUE TO LOSS OF ONE ENGINE AND POSSIBLE INABILITY TO COMPLETE TIME-CRITICAL OMS DUMP POST-MECO.

REFERENCES: 1) MC621-0009 2) MC621-0059 3) JSC 12770 4) JSC 18958 5) JSC 11174, 9.13

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 11/09/87
SUBSYSTEM: OMS
MDAC ID: 20012

HIGHEST CRITICALITY HDW/FUNC
FLIGHT: 2/1R
ABORT: 1/1

ITEM: GN2 PRESSURE REGULATOR AND PRESSURE RELIEF VALVE
FAILURE MODE: SIMULTANEOUS REG FAIL OPEN AND RELIEF VALVE FAIL CLOSED

LEAD ANALYST: C.D. PRUST SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) HARDWARE COMPONENTS
2) ASSEMBLIES
3) OME SUBSYSTEM
4) GN2 ASSEMBLY
5) GN2 PRESSURE REGULATOR AND PRESSURE RELIEF VALVE
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	1/1
LIFTOFF:	3/2R	TAL:	1/1
ONORBIT:	2/2	AOA:	3/3
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION:
PART NUMBER: MC621-0009

CAUSES: CONTAMINATION, PIECE-PART STRUCTURAL FAILURE, MATERIAL/MANUFACTURING DEFECT, PISTON JAMS

EFFECTS/RATIONALE:
FAILURE OF PISTON CAUSE SIMULTANEOUS REG FAIL OPEN AND RELIEF VALVE FAIL CLOSED. FIRST FAILURE RESULTS IN OVERPRESSURIZATION AND POSSIBLE RUPTURE OF DOWNSTREAM LINES AND COMPONENTS, LEADING TO LOSS OF THE OMS ENGINE. WITH FIRST FAILURE, ONE FAILURE (SAME FAILURE IN OTHER POD) AWAY FROM POSSIBLE LOSS OF LIFE/VEHICLE DUE TO LOSS OF BOTH OMS ENGINES. FIRST FAILURE DURING RTLS OR TAL IS POSSIBLE LOSS OF LIFE/VEHICLE DUE TO LOSS OF ONE ENGINE AND POSSIBLE INABILITY TO COMPLETE A TIME-CRITICAL OMS DUMP.

REFERENCES: 1) JSC 18958 2) MC621-0009 3) VS70-943099, 43AD, BD 4) JSC 11174, 11.3 5) JSC 19950

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 11/10/87 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: OMS FLIGHT: 3/2R
MDAC ID: 20013 ABORT: 3/2R

ITEM: HELIUM PRESSURE REGULATOR ASSEMBLY
FAILURE MODE: EXTERNAL LEAKAGE THROUGH BELLOWS AND SENSING PORT

LEAD ANALYST: C.D. PRUST SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) HARDWARE COMPONENTS
2) ASSEMBLIES
3) HE PRESS SUBSYSTEM
4) HELIUM PRESSURE REGULATOR ASSEMBLY
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/2R	AOA:	3/3
DEORBIT:	3/3	ATO:	3/2R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [F] C [P]

LOCATION:
PART NUMBER: 73P620002

CAUSES: CONTAMINATION, PIECE-PART STRUCTURAL FAILURE, MATERIAL/MANUFACTURING DEFECT, BELLOWS LEAK, SEAL LEAK

EFFECTS/RATIONALE:
FIRST FAILURE IS NO EFFECT. LOSS OF ALL REDUNDANCY (PARALLEL REGULATOR LEG) RESULTS IN POSSIBLE LOSS OF MISSION. SLOW HELIUM LEAK THROUGH SENSING PORT RESULTING FROM BELLOWS FAILURE COULD RESULT IN MISSION MODIFICATION IN ORDER TO CONSERVE HELIUM PRESSURANT OR ACHIEVE FULL BLOW-DOWN CAPABILITY IN AFFECTED POD.

REFERENCES: 1) JSC 18958 2) MC621-0009 3) VS70-943099, 43AD, BD 4) JSC 11174, 11.3 5) JSC 19950

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/01/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: OMS FLIGHT: 3/1R
MDAC ID: 20014 ABORT: 3/1R

ITEM: VALVE - PROPELLANT TANK ISOLATION
FAILURE MODE: RELIEF DEVICE FAILS CLOSED

LEAD ANALYST: C.D. PRUST SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) HARDWARE COMPONENTS
2) ASSEMBLIES
3) PROP STOR & DIST SUBSYSTEM
4) PROP TANK ISOL VALVES
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/1R	RTLS:	3/3
LIFTOFF:	3/1R	TAL:	3/3
ONORBIT:	3/1R	AOA:	3/3
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	3/1R		

REDUNDANCY SCREENS: A [2] B [NA] C [P]

LOCATION:
PART NUMBER: MC284-0430

CAUSES: CONTAMINATION, PIECE-PART STRUCTURAL FAILURE, VIBRATION, MATERIAL/MANUFACTURING DEFECT

EFFECTS/RATIONALE:
PREVIOUS FAILURE REQUIRED FOR VALVES TO BE CLOSED. FAILURE OF RELIEF DEVICE IN ONE ISOL VALVE IS UNDETECTABLE AND HAS NO EFFECT. PARALLEL DEVICE WILL RELIEVE PRESSURE. FAILURE OF DEVICES IN BOTH VALVES IS POSSIBLE LOSS OF LIFE/VEHICLE DUE TO POSSIBLE OVERPRESSURIZATION AND RUPTURE OF DOWNSTREAM LINES. VALVES OPEN DURING ABORTS. STANDBY REDUNDANCY (B SCREEN NA).

REFERENCES: 1) 73A000014 2) VS70-943099, 43AB, BB 3) JSC 11174, 11.3 4) MC284-0430

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/01/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: OMS FLIGHT: 3/1R
MDAC ID: 20015 ABORT: 3/1R

ITEM: VALVE - CROSSFEED
FAILURE MODE: RELIEF DEVICE FAILS CLOSED

LEAD ANALYST: C.D. PRUST SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) HARDWARE COMPONENTS
2) ASSEMBLIES
3) PROP STOR & DIST SUBSYSTEM
4) CROSSFEED VALVES
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/	RTLS:	3/1R
LIFTOFF:	3/1R	TAL:	3/1R
ONORBIT:	3/1R	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	3/1R		

REDUNDANCY SCREENS: A [2] B [NA] C [P]

LOCATION:
PART NUMBER: MC284-0430

CAUSES: CONTAMINATION, PIECE-PART STRUCTURAL FAILURE, VIBRATION, MATERIAL/MANUFACTURING DEFECT

EFFECTS/RATIONALE:
FIRST FAILURE IS NO EFFECT. LOSS OF ALL REDUNDANCY (ALL OTHER CROSSFEED VALVES) IS POSSIBLE LOSS OF LIFE/VEHICLE DUE TO OVERPRESSURIZATION AND POSSIBLE RUPTURE OF CROSSFEED LINES. STANDBY REDUNDANCY (B SCREEN NA).

REFERENCES: 1) 73A000014 2) VS70-943099, 43AC, BC 3) JSC 11174, 11.3 4) MC284-0430

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/11/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: OMS FLIGHT: 2/2
MDAC ID: 21001 ABORT: 1/1

ITEM: DEDICATED SIGNAL CONDITIONER
FAILURE MODE: FAILS OPEN, ONE CIRCUIT PATH

LEAD ANALYST: W.A. HAUFLER SUBSYS LEAD: C.D. PRUST

BREAKDOWN HIERARCHY:
1) ELECTRICAL COMPONENTS
2) INSTRUMENTATION
3) OME SUBSYSTEM
4) OME ASSEMBLY
5) DEDICATED SIGNAL CONDITIONER
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	1/1
LIFTOFF:	2/2	TAL:	1/1
ONORBIT:	2/2	AOA:	3/3
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION: OMS PODS, AV BAY 4,5,6, MIDBODY
PART NUMBER: 40V75A23,40V75A74,40V75A21,40V75A23,40V75A74,
51V75A25,51V75A77,54V75A19,55V75A20

CAUSES: CONTAMINATION, VIBRATION, PIECE PART FAILURE, OVERLOAD

EFFECTS/RATIONALE:
WORST CASE WOULD BE TO LOSE ABILITY TO UTILIZE THE OMS ENGINE REGULATOR OUTLET PRESSURE SENSOR, PT006. THIS COULD LEAD TO FALSELY FAILING THE OMS ENGINE (SEE FLIGHT RULE 6-4, LINE FAILURE). FOR LO& OO, LOSS OF AN OMS ENGINE WOULD RESULT IN LIMITING ATTITUDE TO RCS DEORBIT CAPABILITIES, THUS LOSS OF MISSION. LOSS OF REDUNDANCY IN THE DO PHASE COULD LEAD TO FAILURE OF TWO OMS ENGINES AND THEREFORE LOSS OF DEORBIT CAPABILITY IF ABOVE THE RCS REDLINE. LOSS OF ONE OMS ENGINE DURING RTLS & TAL WOULD RESULT IN INABILITY TO PERFORM TIME CRITICAL PROPELLANT DUMP.

REFERENCES: VS70-943099 REV A EO B12; JSC-20923 PCN-1

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE/RECOMMENDATIONS

This section provides a cross reference between the NASA FMEA and corresponding IOA analysis worksheet(s). The Appendix F identifies: NASA FMEA Number, IOA Assessment Number, NASA criticality and redundancy screen data, and IOA recommendations.

Appendix F Legend:

OMS HARDWARE CODES

RESOLVED ISSUES

Code	Definition
RES 1:	NASA/RI changed criticalities and/or screens for this failure mode per IOA issue.
RES 2:	NASA/RI added this new FMEA per IOA issue.
RES 3:	NASA/RI added this failure mode to this FMEA per IOA issue.
RES 4:	NASA/RI added this item to this FMEA per IOA issue.
RES 5:	NASA/RI revised "effects" per IOA issue.
RES 6:	NASA/RI made editorial revisions per IOA issue.
RES 7:	NASA/RI deleted the FMEA for this item and failure mode per IOA issue.
RES 8:	NASA/RI added a cause to this FMEA per IOA issue.
RES 9:	NASA/RI upgraded this failure mode to an abort criticality 1/1 per IOA issue.

UNRESOLVED ISSUES

HDW 1: IOA recommends that this failure mode be upgraded to a CIL item.

HDW 2: IOA recommends a criticality and/or screen upgrade for this failure mode.

HDW 3: IOA recommends that this failure mode be upgraded to an abort criticality 1/1.

HDW 4: IOA recommends the addition of this failure mode to the FMEA/CIL.

HDW 5: IOA recommends the addition of this item and failure mode to the FMEA/CIL.

HDW 6: IOA recommends editorial revisions on this FMEA.

HDW 7: IOA recommends that this FMEA be split into two FMEAs.

OMS EPD&C CODES

UNRESOLVED ISSUES

EPDC 1: IOA recommends that this failure mode be upgraded to a CIL item.

EPDC 2: IOA recommends a criticality and/or screen upgrade for this failure mode.

EPDC 3: IOA recommends a criticality and/or screen downgrade for this failure mode.

EPDC 4: IOA recommends the addition of this failure mode to the FMEA/CIL.

EPDC 5: IOA recommends the addition of this item and failure mode to the FMEA/CIL.

EPDC 6: IOA recommends editorial revisions on this FMEA.

EPDC 7: IOA recommends that a non-credible failure mode be removed from this FMEA.

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
03-3-1001-1	OMS-100	1/1				/					
	OMS-101	1/1				/					
03-3-1002-1	OMS-102	2/1R	F	F	P	2/1R	F	F	P	HDW 4	X
03-3-1002-2	OMS-104	3/3				/					
03-3-1002-3	OMS-103	3/3				3/3				HDW 4	X
03-3-1003-1	OMS-108	3/1R	P	F	P	/				RES 1	
	OMS-109	3/1R	P	F	P	/				RES 1	
03-3-1003-2	OMS-107	2/1R	P	P	P	/				HDW 7	X
	OMS-111	2/1R	P	P	P	2/1R	P	F	F	RES 3, HDW 2, 7	X
03-3-1004-1	OMS-118	3/1R	P	F	P	/				RES 5	
03-3-1004-2	OMS-119	2/1R	P	P	F	2/1R	P	F	F	HDW 2	X
	OMS-120	2/1R	P	P	F	2/1R	P	F	F	HDW 2	X
	OMS-121	2/1R	P	P	F	2/1R	P	F	F	HDW 2	X
03-3-1004-3	OMS-20013X	3/2R	P	F	P	/					
03-3-1006-1	OMS-127	3/3				3/1R	P	F	P	HDW 1	X
	OMS-128	3/3				3/1R	P	F	P	HDW 1	X
03-3-1006-2	OMS-126	2/1R	P	F	P	/					
	OMS-130	2/1R	P	F	P	/				RES 3	
03-3-1007-1	OMS-133	3/3				2/1R	P	F	P	HDW 1, 7	X
	OMS-134	3/3				3/1R	P	F	P	HDW 1, 7	X
03-3-1007-2	OMS-132	2/1R	P	F	P	/					
03-3-1007-3	OMS-136	1/1				/				RES 2	
03-3-1008-1	OMS-154	3/3				/					
03-3-1009-1	OMS-145	1/1				/				RES 6	
03-3-1009-2	OMS-141	3/1R	F	NA	P	/					
03-3-1009-3	OMS-142	2/1R	P	F	P	/					
	OMS-143	2/1R	P	F	P	/				RES 3	
03-3-1009-4	OMS-141A	3/1R	P	NA	P	/					
	OMS-20004X	3/1R	P	NA	P	/				RES 3	
03-3-1009-5	OMS-144	2/1R	P	NA	P	/				RES 1	
03-3-1101-1	OMS-105	1/1				/					
	OMS-110	1/1				/				RES 4	
	OMS-116	1/1				/					
	OMS-122	1/1				/				RES 4	
	OMS-129	1/1				/				RES 4	
	OMS-135	1/1				/				RES 4	
	OMS-145A	1/1				/				RES 4	
	OMS-155	1/1				/				RES 4	
03-3-1205-1	OMS-113	3/1R	F	F	P	3/1R	F	F	P	HDW 4	X
	OMS-123	3/1R	F	F	P	3/1R	F	F	P	HDW 4	X
	OMS-137	3/1R	F	F	P	3/1R	F	F	P	HDW 4	X
	OMS-146	3/1R	F	F	P	3/1R	F	F	P	HDW 4	X

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA			IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B C	CRIT HW/F	SCREENS A	B C	OTHER (SEE LEGEND CODE)	ISSUE
03-3-1205-2	OMS-115	3/3			/				
	OMS-125	3/3			/				
	OMS-139	3/3			/				
	OMS-148	3/3			/				
03-3-1205-3	OMS-114	3/3			3/3			HDW 4	X
	OMS-124	3/3			3/3			HDW 4	X
	OMS-138	3/3			3/3			HDW 4	X
	OMS-147	3/3			3/3			HDW 4	X
03-3-2001-1	OMS-150	2/1R	F F	P	2/1R	F F	P	RES 4, HDW 4	X
	OMS-156	2/1R	F F	P	2/1R	F F	P	HDW 4	X
	OMS-168	2/1R	F F	P	2/1R	F F	P	RES 4, HDW 4	X
	OMS-171	2/1R	F F	P	2/1R	F F	P	RES 4, HDW 4	X
	OMS-174	2/1R	F F	P	2/1R	F F	P	RES 4, HDW 4	X
	OMS-231	2/1R	F F	P	2/1R	F F	P	RES 4, HDW 4	X
03-3-2001-2	OMS-152	3/3			/			RES 4	
	OMS-158	3/3			/				
	OMS-170	3/3			/			RES 4	
	OMS-173	3/3			/			RES 4	
	OMS-176	3/3			/			RES 4	
	OMS-233	3/3			/			RES 4	
03-3-2001-3	OMS-151	3/3			3/3			RES 4, HDW 4	X
	OMS-157	3/3			3/3			HDW 4	X
	OMS-169	3/3			3/3			RES 4, HDW 4	X
	OMS-172	3/3			3/3			RES 4, HDW 4	X
	OMS-175	3/3			3/3			RES 4, HDW 4	X
	OMS-232	3/3			3/3			RES 4, HDW 4	X
03-3-20010-1	OMS-216	1/1			/			RES 8	
03-3-20011-1	OMS-219	1/1			/			RES 8	
03-3-2002-1	OMS-163	1/1			/				
03-3-2002-2	OMS-164	2/1R	P F	P	/				
03-3-2004-1	OMS-193	2/2			/				
03-3-2005-1	OMS-192	3/2R	P F	P	/				
03-3-2006-3	OMS-190	1/1			/				
	OMS-191	1/1			/				
03-3-2007-1	OMS-199	2/1R	P NA	P	/				
	OMS-201	2/1R	P NA	P	/				
03-3-2007-2	OMS-198	2/1R	P F	P	/				
	OMS-203	2/1R	P F	P	/			RES 1, 3	
03-3-2007-3	OMS-202A	1/1			/				
03-3-2008-1	OMS-224	3/2R	P P	P	/				
	OMS-226	3/2R	P P	P	/				
03-3-2008-2	OMS-223	3/1R	P P	P	/				
	OMS-228	3/1R	P P	P	/			RES 3	

APPENDIX F

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IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
03-3-2008-3	OMS-227A	1/1				/					
03-3-2009-1	OMS-165	2/1R	F	F	P	2/1R	F	F	P	RES 4, HDW 4	X
	OMS-207	2/1R	F	F	P	2/1R	F	F	P	RES 4, HDW 4	X
	OMS-210	2/1R	F	F	P	2/1R	F	F	P	HDW 4	X
	OMS-213	2/1R	F	F	P	2/1R	F	F	P	RES 4, HDW 4	X
	OMS-234	2/1R	F	F	P	2/1R	F	F	P	RES 4, HDW 4	X
03-3-2009-2	OMS-167	3/3				/				RES 4	
	OMS-209	3/3				/				RES 4	
	OMS-212	3/3				/					
	OMS-215	3/3				/				RES 4	
	OMS-236	3/3				/				RES 4	
03-3-2009-3	OMS-166	3/3				3/3				RES 4, HDW 4	X
	OMS-208	3/3				3/3				RES 4, HDW 4	X
	OMS-211	3/3				3/3				HDW 4	X
	OMS-214	3/3				3/3				RES 4, HDW 4	X
	OMS-235	3/3				3/3				RES 4, HDW 4	X
03-3-2101-1	OMS-194	1/1				/				RES 8	
	OMS-202	1/1				/				RES 4, 8	
	OMS-227	1/1				/				RES 4, 8	
	OMS-260	1/1				/				RES 4, 8	
03-3-2102-1	OMS-194A	1/1				/				RES 8	
03-3-2601-1	OMS-160	1/1				/				RES 8	
	OMS-195	1/1				/				RES 8	
	OMS-239	1/1				/				RES 8	
	OMS-242	1/1				/				RES 8	
03-3-2602-1	OMS-245	1/1	NA	NA	NA	/				RES 8	
03-3-3202-1	OMS-177	3/3				/					
	OMS-178	3/3				/					
	OMS-181	3/3				/					
	OMS-182	3/3				/					
	OMS-183A	3/3				/					
	OMS-186	3/3				/					
03-3-3202-3	OMS-183	3/3				/					
03-3-3202-4	OMS-182A	3/3				/					
03-3-3284-1	OMS-187	3/3				/					
	OMS-189	3/3				/					
03-3-4001-1	OMS-257	2/1R	P	P	P	/					
	OMS-327	2/1R	P	P	P	/					
	OMS-338	2/1R	P	P	P	/					
	OMS-348A	2/1R	P	P	P	/					
03-3-4001-2	OMS-256	2/1R	P	P	P	/					
	OMS-326	2/1R	P	P	P	/					
	OMS-337	2/1R	P	P	P	/					

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
	OMS-340	2/1R	P	P	P	/					
	OMS-348	2/1R	P	P	P	/					
	OMS-349	2/1R	P	P	P	/					
03-3-4001-3	OMS-258	2/1R	P	F	P	/				RES 3	
	OMS-261	2/1R	P	F	P	/				RES 3	
	OMS-331	2/1R	P	F	P	/				RES 1	
	OMS-339	2/1R	P	F	P	/				RES 1	
	OMS-344	2/1R	P	F	P	/				RES 3	
	OMS-20003X	2/1R	P	F	P	/				RES 3	
	OMS-20006X	2/1R	P	F	P	/				RES 3	
03-3-4001-4	OMS-328	2/1R	P	P	P	/					
03-3-4001-5	OMS-341	2/1R	P	P	P	/					
	OMS-343	2/1R	P	P	P	/					
03-3-4001-6	OMS-259	2/1R	P	F	P	/				RES 1	
	OMS-264	2/1R	P	F	P	/				RES 3	
03-3-4002-1	OMS-249	2/1R	P	P	P	/					
03-3-4002-2	OMS-248	3/3				1/1				HDW 1	X
03-3-4003-1	OMS-270	1/1				/					
03-3-4004-1	OMS-280	1/1				/					
	OMS-281	1/1				/					
03-3-4004-2	OMS-282	1/1				/				RES 6	
03-3-4005-1	OMS-285A	1/1				/					
03-3-4005-2	OMS-283	1/1				/					
	OMS-284	1/1				/					
03-3-4006-1	OMS-285	1/1				/					
	OMS-286	1/1				/					
03-3-4501-1	OMS-295	1/1				/					
	OMS-296	1/1				/					
03-3-45011-1	OMS-316	3/1R	P	P	P	/				RES 9	
	OMS-317	3/1R	P	P	P	/				RES 9	
	OMS-318	3/1R	P	P	P	/				RES 9	
03-3-45011-2	OMS-315	3/1R	P	NA	P	/				RES 1	
03-3-45011-3	OMS-20012X	2/1R	P	P	P	/					
03-3-4502-1	OMS-287	3/1R	F	F	P	3/1R	F	F	P	HDW 4	X
03-3-4502-2	OMS-289	3/3				/					
03-3-4502-3	OMS-288	3/3				3/3				HDW 4	X
03-3-4503-1	OMS-300	3/1R	P	F	P	/					
	OMS-301	3/1R	P	F	P	/				RES 1	
03-3-4503-2	OMS-299	3/1R	P	P	P	/				RES 9, HDW 6, 7	X
	OMS-303	3/1R	P	P	P	2/1R	P	F	P	RES 3, HDW 2, 7	X
03-3-4505-1	OMS-306	3/1R	P	P	P	/					
03-3-4505-2	OMS-305	2/1R	P	F	P	/				RES 1, 9	
	OMS-308	2/1R	P	F	P	/				RES 1, 9	

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
	OMS-309	2/1R	P	F	P	/				RES 1, 9	
03-3-4506-1	OMS-312	3/1R	F	F	P	3/1R	F	F	P	HDW 4	X
03-3-4506-2	OMS-314	3/3				/					
03-3-4506-3	OMS-313	3/3				3/3				HDW 4	X
03-3-4507-1	OMS-253	2/1R	F	F	P	2/1R	F	F	P	HDW 4	X
	OMS-267	2/1R	F	F	P	2/1R	F	F	P	HDW 4	X
	OMS-273	2/1R	F	F	P	2/1R	F	F	P	HDW 4	X
	OMS-277	2/1R	F	F	P	2/1R	F	F	P	HDW 4	X
03-3-4507-2	OMS-255	3/3				/					
	OMS-269	3/3				/					
	OMS-275	3/3				/					
	OMS-279	3/3				/					
03-3-4507-3	OMS-254	3/3				3/3				HDW 4	X
	OMS-268	3/3				3/3				HDW 4	X
	OMS-274	3/3				3/3				HDW 4	X
	OMS-278	3/3				3/3				HDW 4	X
03-3-4508-1	OMS-352	3/1R	P	F	P	/					
	OMS-353	3/1R	P	F	P	/					
	OMS-358	3/1R	P	F	P	/					
	OMS-359	3/1R	P	F	P	/					
03-3-4508-2	OMS-351	3/3				/					
	OMS-355	3/3				/				RES 3	
	OMS-357	3/3				/					
	OMS-360	3/3				/					
	OMS-361	3/3				/				RES 4	
03-3-4510-1	OMS-290	2/1R	P	P	P	/					
	OMS-293	2/1R	P	P	P	/				RES 4	
	OMS-297	2/1R	P	P	P	/				RES 4	
	OMS-302	2/1R	P	P	P	/				RES 4	
	OMS-307	2/1R	P	P	P	/				RES 4	
	OMS-310	2/1R	P	P	P	/					
	OMS-324	2/1R	P	P	P	/					
	OMS-329	2/1R	P	P	P	/				RES 4	
	OMS-354	2/1R	P	P	P	/				RES 4	
03-3-4511-1	OMS-294	3/1R	P	F	P	/				HDW 6	X
03-3-4511-2	OMS-292	3/3				/					
03-3-4551-1	OMS-320	3/1R	P	F	P	/					
	OMS-321	3/1R	P	F	P	/					
03-3-4551-2	OMS-319	2/1R	P	F	P	/				RES 1, 9	
03-3-4552-1	OMS-322	2/1R	P	P	P	1/1				HDW 2, 7	X
	OMS-323	2/1R	P	P	P	/				HDW 7	X
03-3-4601-1	OMS-250	1/1				/					
03-3-6401-1	OMS-365	3/1R	P	P	P	/					
03-3-64011-1	OMS-364	1/1				/					

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
03-3-6402-1	OMS-368	1/1				/					
	OMS-377	1/1				/					
	OMS-381	1/1				/					
	OMS-20010X	1/1				/					
03-3-6402-2	OMS-367	2/1R	P	P	P	2/1R	P	P	P	HDW 3	X
	OMS-376	2/1R	P	P	P	2/1R	P	P	P	HDW 3	X
	OMS-379	2/1R	P	P	P	2/1R	P	P	P	HDW 3	X
	OMS-20009X	2/1R	P	P	P	2/1R	P	P	P	HDW 3	X
	OMS-20011X	2/1R	P	P	P	2/1R	P	P	P	HDW 3	X
03-3-6403-1	OMS-371	3/1R	P	P	P	/					
03-3-6404-1	OMS-375	3/1R	P	P	P	/				HDW 6	X
	OMS-20007X	3/1R	P	P	P	/				HDW 6	X
03-3-6406-1	OMS-378	3/3	NA	NA	NA	2/1R	P	P	P	HDW 1, 3	X
03-3-64071-1	OMS-382	3/1R	P	P	P	/					
	OMS-383	3/1R	P	P	P	/					
03-3-6408-1	OMS-362	1/1				/					
03-3-6409-1	OMS-363	2/1R	P	P	P	2/1R	P	P	P	HDW 3	X
NONE	OMS-106	/				/					
	OMS-112	/				/					
	OMS-117	/				/					
	OMS-131	/				/					
	OMS-140	/				/					
	OMS-149	/				/					
	OMS-153	/				/					
	OMS-159	/				/					
	OMS-161	/				/					
	OMS-162	/				/					
	OMS-179	/				/					
	OMS-180	/				/					
	OMS-184	/				/					
	OMS-185	/				/					
	OMS-188	/				/					
	OMS-196	/				/					
	OMS-197	/				/					
	OMS-200	/				/					
	OMS-204	/				/					
	OMS-205	/				/					
	OMS-206	/				/					
	OMS-217	/				/					
	OMS-218	/				/					
	OMS-220	/				/					
	OMS-221	/				/					
	OMS-222	/				/					
	OMS-225	/				/					

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA			IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B C	CRIT HW/F	SCREENS A	B C	OTHER (SEE LEGEND CODE)	ISSUE
NONE	OMS-229	/			/				
	OMS-230	/			/				
	OMS-237	/			/				
	OMS-238	/			/				
	OMS-240	/			/				
	OMS-241	/			/				
	OMS-243	/			/				
	OMS-244	/			/				
	OMS-246	/			/				
	OMS-247	/			/				
	OMS-251	/			/				
	OMS-252	/			/				
	OMS-262	/			1/1			HDW 5	X
	OMS-263	/			2/1R	P	F P	HDW 5	X
	OMS-265	/			1/1			HDW 5	X
	OMS-266	/			/				
	OMS-271	/			/				
	OMS-272	/			/				
	OMS-276	/			/				
	OMS-291	/			/				
	OMS-298	/			/				
	OMS-304	/			/				
	OMS-311	/			/				
	OMS-325	/			/				
	OMS-330	/			2/1R	P	P P	HDW 4	X
	OMS-332	/			/				
	OMS-333	/			/				
	OMS-334	/			/				
	OMS-335	/			/				
	OMS-336	/			/				
	OMS-342	/			3/1R	P	F P	HDW 4	X
	OMS-345	/			3/3			HDW 5	X
	OMS-346	/			3/3			HDW 5	X
	OMS-347	/			3/3			HDW 5	X
	OMS-350	/			/				
	OMS-356	/			/				
	OMS-366	/			3/1R	P	P P	HDW 4	X
	OMS-369	/			3/1R	P	P P	HDW 5	X
	OMS-370	/			3/1R	P	P P	HDW 5	X
	OMS-372	/			3/1R	P	P P	HDW 4	X
	OMS-373	/			2/1R	P	P P	HDW 4	X
	OMS-374	/			2/1R	P	P P	HDW 4	X
	OMS-380	/			/				

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
NONE	OMS-20001X	/				/				RES 7	
	OMS-20002X	/				1/1				HDW 4	X
	OMS-20005X	/				1/1				HDW 5	X
	OMS-20008X	/				2/1R	P	P	P	HDW 5	X
	OMS-20014X	/				3/1R	P	NA	P	HDW 4	X
	OMS-20015X	/				3/1R	P	NA	P	HDW 4	X

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APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *					
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
03-3-1801-1	OMS-445	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-446	3/3				3/2R	P	P	P	EPD&C 2	X
03-3-1802-1	OMS-447	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-448	3/3				/					
03-3-2801-1	OMS-608	3/3				/					
	OMS-609	3/3				/					
03-3-2803-1	OMS-610	3/3				2/2				EPD&C 1	X
	OMS-611	3/3				2/2				EPD&C 1	X
03-3-2804-1	OMS-990A	3/3				/					
	OMS-991A	3/3				/					
	OMS-992A	3/3				/					
	OMS-993A	3/3				/					
	OMS-994A	3/3				2/2				EPD&C 1	X
	OMS-995A	3/3				/					
	OMS-996A	3/3				/					
	OMS-997A	3/3				2/2				EPD&C 1	X
	OMS-998A	3/3				2/2				EPD&C 1	X
	OMS-999A	3/3				/					
	OMS-1000A	3/3				/					
	OMS-1001A	3/3				2/2				EPD&C 1	X
	OMS-1002A	3/3				2/2				EPD&C 1	X
03-3-4081-1	OMS-693	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-694	3/3				3/2R	P	P	P	EPD&C 2	X
03-3-4581-1	OMS-687	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-688	3/3				3/2R	P	P	P	EPD&C 2	X
03-3-4801-1	OMS-701	3/3				/					
03-3-4802-1	OMS-698	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-700	3/3				/					
03-3-4803-1	OMS-696	3/2R	P	P	P	/					
	OMS-697	3/2R	P	P	P	/					
03-3-4804-1	OMS-699	3/2R	P	P	P	/					
03-3-4805-1	OMS-695	3/2R	P	P	P	/					
03-3-6407-1	OMS-702	3/1R	P	P	P	/					
	OMS-703	3/1R	P	P	P	/					
	OMS-704	3/1R	P	P	P	/					
	OMS-705	3/1R	P	P	P	/					
03-3-7001-1	OMS-782	3/2R	P	P	P	/					
	OMS-783	3/2R	P	P	P	/				EPD&C 7	X
	OMS-784	3/2R	P	P	P	/					
	OMS-785	3/2R	P	P	P	/				EPD&C 7	X
	OMS-786	3/2R	P	P	P	/					
	OMS-787	3/2R	P	P	P	/				EPD&C 7	X
	OMS-788	3/2R	P	P	P	/					

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
03-3-7001-1	OMS-789	3/2R	P	P	P	/				EPD&C 7	X
	OMS-790	3/2R	P	P	P	/					
	OMS-791	3/2R	P	P	P	/				EPD&C 7	X
	OMS-792	3/2R	P	P	P	/					
	OMS-793	3/2R	P	P	P	/				EPD&C 7	X
	OMS-794	3/2R	P	P	P	/					
	OMS-795	3/2R	P	P	P	/				EPD&C 7	X
	OMS-796	3/2R	P	P	P	/					
	OMS-797	3/2R	P	P	P	/				EPD&C 7	X
	OMS-798	3/2R	P	P	P	/					
	OMS-799	3/2R	P	P	P	/					
	OMS-800	3/2R	P	P	P	/					
	OMS-801	3/2R	P	P	P	/					
	OMS-802	3/2R	P	P	P	/					
	OMS-803	3/2R	P	P	P	/					
	OMS-804	3/2R	P	P	P	/					
	OMS-805	3/2R	P	P	P	/					
	OMS-806	3/2R	P	P	P	/					
	OMS-807	3/2R	P	P	P	/				EPD&C 7	X
	OMS-808	3/2R	P	P	P	/					
	OMS-809	3/2R	P	P	P	/				EPD&C 7	X
	OMS-810	3/2R	P	P	P	/					
	OMS-811	3/2R	P	P	P	/				EPD&C 7	X
	OMS-812	3/2R	P	P	P	/					
	OMS-813	3/2R	P	P	P	/				EPD&C 7	X
	OMS-814	3/2R	P	P	P	/					
	OMS-815	3/2R	P	P	P	/				EPD&C 7	X
	OMS-816	3/2R	P	P	P	/					
	OMS-817	3/2R	P	P	P	/				EPD&C 7	X
	OMS-818	3/2R	P	P	P	/					
	OMS-819	3/2R	P	P	P	/				EPD&C 7	X
	OMS-820	3/2R	P	P	P	/					
	OMS-821	3/2R	P	P	P	/				EPD&C 7	X
	OMS-822	3/2R	P	P	P	/					
	OMS-823	3/2R	P	P	P	/				EPD&C 7	X
	OMS-824	3/2R	P	P	P	/					
	OMS-825	3/2R	P	P	P	/				EPD&C 7	X
	OMS-826	3/2R	P	P	P	/					
	OMS-827	3/2R	P	P	P	/				EPD&C 7	X
	OMS-828	3/2R	P	P	P	/					
	OMS-829	3/2R	P	P	P	/				EPD&C 7	X
	OMS-830	3/2R	P	P	P	/					
	OMS-831	3/2R	P	P	P	/				EPD&C 7	X

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B C	OTHER (SEE LEGEND CODE)	ISSUE
03-3-7001-1	OMS-832	3/2R	P	P	P	/				
	OMS-833	3/2R	P	P	P	/				
	OMS-834	3/2R	P	P	P	/				
	OMS-835	3/2R	P	P	P	/			EPD&C 7	X
	OMS-836	3/2R	P	P	P	/				
	OMS-837	3/2R	P	P	P	/			EPD&C 7	X
	OMS-838	3/2R	P	P	P	/				
	OMS-839	3/2R	P	P	P	/				
	OMS-840	3/2R	P	P	P	/				
	OMS-841	3/2R	P	P	P	/				
	OMS-842	3/2R	P	P	P	/				
	OMS-843	3/2R	P	P	P	/				
	OMS-844	3/2R	P	P	P	/				
	OMS-845	3/2R	P	P	P	/				
03-3-7002-1	OMS-894	3/2R	P	P	P	/				
	OMS-896	3/2R	P	P	P	/				
	OMS-898	3/2R	P	P	P	/				
	OMS-900	3/2R	P	P	P	/				
	OMS-902	3/2R	P	P	P	/				
	OMS-904	3/2R	P	P	P	/				
	OMS-906	3/2R	P	P	P	/				
	OMS-908	3/2R	P	P	P	/				
	OMS-910	3/2R	P	P	P	/				
	OMS-912	3/2R	P	P	P	/				
	OMS-914	3/2R	P	P	P	/				
	OMS-916	3/2R	P	P	P	/				
	OMS-918	3/2R	P	P	P	/				
	OMS-920	3/2R	P	P	P	/				
	OMS-922	3/2R	P	P	P	/				
	OMS-924	3/2R	P	P	P	/				
	OMS-1003	3/2R	P	P	P	/				
	OMS-1005	3/2R	P	P	P	/				
	OMS-1007	3/2R	P	P	P	/				
	OMS-1009	3/2R	P	P	P	/				
	OMS-1011	3/2R	P	P	P	/				
	OMS-1013	3/2R	P	P	P	/				
	OMS-1015	3/2R	P	P	P	/				
	OMS-1017	3/2R	P	P	P	/				
	OMS-1019	3/2R	P	P	P	/				
	OMS-1021	3/2R	P	P	P	/				
	OMS-1023	3/2R	P	P	P	/				
	OMS-1025	3/2R	P	P	P	/				
	OMS-1027	3/2R	P	P	P	/				
	OMS-1029	3/2R	P	P	P	/				

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *					
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
03-3-7002-1	OMS-1031	3/2R	P	P	P	/					
	OMS-1033	3/2R	P	P	P	/					
	OMS-1035	3/2R	P	P	P	/					
	OMS-1037	3/2R	P	P	P	/					
	OMS-1039	3/2R	P	P	P	/					
	OMS-1041	3/2R	P	P	P	/					
	OMS-1043	3/2R	P	P	P	/					
	OMS-1045	3/2R	P	P	P	/					
03-3-7002-2	OMS-895	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-897	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-899	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-901	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-903	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-905	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-907	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-909	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-911	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-913	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-915	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-917	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-919	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-921	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-923	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-925	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-1004	3/2R	P	P	P	3/2R	F	F	P	EPD&C 1	X
	OMS-1006	3/2R	P	P	P	3/2R	F	F	P	EPD&C 1	X
	OMS-1008	3/2R	P	P	P	3/2R	F	F	P	EPD&C 1	X
	OMS-1010	3/2R	P	P	P	3/2R	F	F	P	EPD&C 1	X
	OMS-1012	3/2R	P	P	P	3/2R	F	F	P	EPD&C 1	X
	OMS-1014	3/2R	P	P	P	/					
	OMS-1016	3/2R	P	P	P	3/2R	F	F	P	EPD&C 1	X
	OMS-1018	3/2R	P	P	P	/					
	OMS-1020	3/2R	P	P	P	/					
	OMS-1022	3/2R	P	P	P	/					
	OMS-1024	3/2R	P	P	P	3/2R	F	F	P	EPD&C 1	X
	OMS-1026	3/2R	P	P	P	3/2R	F	F	P	EPD&C 1	X
	OMS-1028	3/2R	P	P	P	/					
	OMS-1030	3/2R	P	P	P	3/2R	F	F	P	EPD&C 1	X
	OMS-1032	3/2R	P	P	P	/					
	OMS-1034	3/2R	P	P	P	/					
	OMS-1036	3/2R	P	P	P	/					
	OMS-1038	3/2R	P	P	P	3/2R	F	F	P	EPD&C 1	X
	OMS-1040	3/2R	P	P	P	3/2R	F	F	P	EPD&C 1	X
	OMS-1042	3/2R	P	P	P	/					

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
03-3-7002-2	OMS-1044	3/2R	P	P	P	3/2R	F	F	P	EPD&C 1	X
	OMS-1046	3/2R	P	P	P	/					
03-3-7011-1	OMS-952	3/2R	P	P	P	/					
	OMS-953	3/2R	P	P	P	/				EPD&C 7	X
	OMS-954	3/2R	P	P	P	/					
	OMS-955	3/2R	P	P	P	/				EPD&C 7	X
	OMS-956	3/2R	P	P	P	/					
	OMS-957	3/2R	P	P	P	/				EPD&C 7	X
	OMS-958	3/2R	P	P	P	/					
	OMS-959	3/2R	P	P	P	/				EPD&C 7	X
	OMS-960	3/2R	P	P	P	/					
	OMS-961	3/2R	P	P	P	/				EPD&C 7	X
	OMS-962	3/2R	P	P	P	/					
	OMS-963	3/2R	P	P	P	/				EPD&C 7	X
	OMS-964	3/2R	P	P	P	/					
	OMS-965	3/2R	P	P	P	/				EPD&C 7	X
	OMS-966	3/2R	P	P	P	/					
	OMS-967	3/2R	P	P	P	/				EPD&C 7	X
	OMS-968	3/2R	P	P	P	/					
	OMS-969	3/2R	P	P	P	/				EPD&C 7	X
	OMS-970	3/2R	P	P	P	/					
	OMS-971	3/2R	P	P	P	/				EPD&C 7	X
	OMS-972	3/2R	P	P	P	/					
	OMS-973	3/2R	P	P	P	/				EPD&C 7	X
03-3-7801-1	OMS-990	3/3				/					
	OMS-991	3/3				/					
	OMS-992	3/3				/					
	OMS-993	3/3				/					
	OMS-994	3/3				2/2				EPD&C 1	X
	OMS-995	3/3				/					
	OMS-996	3/3				/					
	OMS-997	3/3				2/2				EPD&C 1	X
	OMS-998	3/3				2/2				EPD&C 1	X
	OMS-999	3/3				/					
	OMS-1000	3/3				/					
	OMS-1001	3/3				2/2				EPD&C 1	X
	OMS-1002	3/3				2/2				EPD&C 1	X
03-3-8001-1	OMS-21001X	3/2R	P	P	P	2/2				EPD&C 1	X
05-6L-2001-1	OMS-424	3/1R	P	P	P	/					
	OMS-425	3/1R	P	P	P	/					
05-6L-2002-1	OMS-478	3/1R	P	NA	P	/					
	OMS-479	3/1R	P	NA	P	/					
	OMS-480	3/1R	P	NA	P	/					
	OMS-481	3/1R	P	NA	P	/					

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *					
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
05-6L-2004-1	OMS-474	3/1R	P	F	P	3/2R	P	F	P	EPD&C 3	X
	OMS-475	3/1R	P	F	P	3/2R	P	F	P	EPD&C 3	X
	OMS-476	3/1R	P	F	P	3/2R	P	F	P	EPD&C 3	X
	OMS-477	3/1R	P	F	P	3/2R	P	F	P	EPD&C 3	X
05-6L-2006-1	OMS-645	3/1R	P	P	P	/					
	OMS-647	3/1R	P	P	P	/					
05-6L-2007-1	OMS-644	3/1R	P	F	P	/					
	OMS-646	3/1R	P	F	P	/					
05-6L-2008-1	OMS-685	3/1R	P	P	P	3/1R	P	NA	P	EPD&C 3	X
	OMS-686	3/1R	P	P	P	3/1R	P	NA	P	EPD&C 3	X
05-6L-2009-1	OMS-778	3/2R	P	P	P	/					
	OMS-779	3/2R	P	P	P	/					
	OMS-780	3/2R	P	P	P	/					
	OMS-781	3/2R	P	P	P	/					
05-6L-2011-1	OMS-598	3/3				/					
	OMS-599	3/3				/					
05-6L-2012-1	OMS-762	3/2R	P	F	P	/					
	OMS-763	3/2R	P	F	P	/					
	OMS-764	3/2R	P	F	P	/					
	OMS-765	3/2R	P	F	P	/					
	OMS-766	3/2R	P	F	P	/					
	OMS-767	3/2R	P	F	P	/					
	OMS-768	3/2R	P	F	P	/					
	OMS-769	3/2R	P	F	P	/					
	OMS-770	3/2R	P	F	P	/					
	OMS-771	3/2R	P	F	P	/					
	OMS-772	3/2R	P	F	P	/					
	OMS-773	3/2R	P	F	P	/					
	OMS-774	3/2R	P	F	P	/					
	OMS-775	3/2R	P	F	P	/					
	OMS-776	3/2R	P	F	P	/					
	OMS-777	3/2R	P	F	P	/					
05-6L-2014-1	OMS-690	3/3				/					
	OMS-691	3/3				/					
05-6L-2015-1	OMS-648	3/1R	P	F	P	/					
	OMS-649	3/1R	P	F	P	/					
	OMS-650	3/1R	P	F	P	/					
	OMS-651	3/1R	P	F	P	/					
05-6L-2016-1	OMS-750	3/2R	P	F	P	/					
	OMS-751	3/2R	P	F	P	/					
	OMS-752	3/2R	P	F	P	/					
	OMS-753	3/2R	P	F	P	/					
	OMS-754	3/2R	P	F	P	/					
	OMS-755	3/2R	P	F	P	/					

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *					
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
05-6L-2016-1	OMS-756	3/2R	P	F	P	/					
	OMS-757	3/2R	P	F	P	/					
	OMS-758	3/2R	P	F	P	/					
	OMS-759	3/2R	P	F	P	/					
	OMS-760	3/2R	P	F	P	/					
	OMS-761	3/2R	P	F	P	/					
05-6L-2018-1	OMS-948	3/2R	P	P	P	/					
	OMS-949	3/2R	P	P	P	/					
05-6L-2019-1	OMS-942	3/2R	P	P	P	/					
	OMS-943	3/2R	P	P	P	/					
	OMS-944	3/2R	P	P	P	/					
	OMS-945	3/2R	P	P	P	/					
	OMS-946	3/2R	P	P	P	/					
	OMS-947	3/2R	P	P	P	/					
05-6L-2020-1	OMS-950	3/2R	P	P	P	/					
	OMS-951	3/2R	P	P	P	/					
05-6L-2026-1	OMS-440	3/1R	P	P	P	/					
	OMS-443	3/1R	P	P	P	/					
05-6L-2026-2	OMS-439	2/1R	P	P	P	/					
	OMS-441	2/1R	P	P	P	/					
05-6L-2027-1	OMS-592	3/1R	P	NA	P	/					
	OMS-595	3/1R	P	NA	P	/					
05-6L-2027-2	OMS-594	3/1R	P	NA	P	2/1R	P	P	P	EPD&C 1	X
	OMS-597	3/1R	P	NA	P	2/1R	P	P	P	EPD&C 1	X
05-6L-2028-1	OMS-586	3/1R	P	F	P	3/1R	P	F	P	EPD&C 8	X
	OMS-589	3/1R	P	F	P	3/1R	P	F	P	EPD&C 8	X
05-6L-2028-2	OMS-588	3/1R	P	F	P	3/1R	P	P	P	EPD&C 3	X
	OMS-591	3/1R	P	F	P	3/1R	P	P	P	EPD&C 3	X
05-6L-2028-3	OMS-587	3/1R	P	F	P	3/2R	P	P	P	EPD&C 3	X
	OMS-590	3/1R	P	F	P	3/2R	P	P	P	EPD&C 3	X
05-6L-2029-1	OMS-674	2/1R	P	P	P	/					
05-6L-2029-2	OMS-672	3/1R	?	?	?	3/1R	P	F	P	EPD&C 1	X
	OMS-673	3/1R	?	?	?	3/1R	P	F	P	EPD&C 1	X
05-6L-2030-1	OMS-675	2/1R	P	P	P	/					
05-6L-2030-2	OMS-676	3/1R	P	NA	P	3/1R	P	F	P	EPD&C 1	X
05-6L-2031-1	OMS-928	3/2R	P	P	P	/					
	OMS-929	3/2R	P	P	P	/					
05-6L-2031-2	OMS-926	3/2R	P	F	P	2/1R	P	P	P	EPD&C 2	X
	OMS-927	3/2R	P	F	P	2/1R	P	P	P	EPD&C 2	X
05-6L-2033-1	OMS-449	3/3				3/2R	P	P	P	EPD&C 2	X
05-6L-2034-1	OMS-612	3/3				3/2R	P	P	P	EPD&C 2	X
05-6L-2035-1	OMS-613	3/3				/					
05-6L-2036-1	OMS-1047	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-1049	3/3				3/2R	P	P	P	EPD&C 2	X

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *					
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
05-6L-2036-2	OMS-1048	3/2R	P	P	P	/					
	OMS-1050	3/2R	P	P	P	/					
05-6L-2076-1	OMS-428	3/3				/					
	OMS-429	3/3				/					
	OMS-430	3/3				/					
	OMS-431	3/3				/					
	OMS-434	3/3				/					
	OMS-435	3/3				/					
	OMS-436	3/3				/					
	OMS-437	3/3				/					
05-6L-2077-1	OMS-426	3/3				/					
	OMS-427	3/3				/					
	OMS-432	3/3				/					
	OMS-433	3/3				/					
05-6L-2078-1	OMS-530	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-537	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-550	3/3				/					
	OMS-552	3/3				/					
	OMS-554	3/3				/					
	OMS-556	3/3				/					
	OMS-576	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-584	3/3				3/2R	P	P	P	EPD&C 2	X
05-6L-2079-1	OMS-527	3/3				/					
	OMS-533	3/3				/					
	OMS-571	3/3				/					
	OMS-573	3/3				/					
	OMS-579	3/3				/					
	OMS-581	3/3				/					
05-6L-2079-2	OMS-572	2/1R	P	P	P	3/2R	P	P	P	EPD&C 3	X
	OMS-578	2/1R	P	P	P	3/2R	P	P	P	EPD&C 3	X
05-6L-2079A-2	OMS-526	2/1R	P	F	P	3/2R	P	P	P	EPD&C 3	X
	OMS-532	2/1R	P	F	P	3/2R	P	P	P	EPD&C 3	X
	OMS-570	2/1R	P	F	P	3/2R	P	P	P	EPD&C 3	X
	OMS-580	2/1R	P	F	P	3/2R	P	P	P	EPD&C 3	X
05-6L-2082-1	OMS-518	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-524	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-540	3/3				/					
	OMS-542	3/3				/					
	OMS-546	3/3				/					
	OMS-548	3/3				/					
	OMS-562	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-568	3/3				3/2R	P	P	P	EPD&C 2	X
05-6L-2083-1	OMS-514	2/1R	P	P	P	3/2R	P	P	P	EPD&C 3	X
	OMS-520	2/1R	P	P	P	3/2R	P	P	P	EPD&C 3	X

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
	OMS-558	2/1R	P	P	P	3/2R	P	P	P	EPD&C 3	X
	OMS-564	2/1R	P	P	P	3/2R	P	P	P	EPD&C 3	X
05-6L-2083A-1	OMS-538	2/1R	P	F	P	3/2R	P	P	P	EPD&C 3	X
	OMS-544	2/1R	P	F	P	3/2R	P	P	P	EPD&C 3	X
05-6L-2086-1	OMS-658	3/3				/					
	OMS-659	3/3				/					
	OMS-662	3/3				/					
	OMS-633	3/3				/					
	OMS-664	3/3				/					
	OMS-665	3/3				/					
	OMS-667	3/3				/					
	OMS-668	3/3				/					
	OMS-670	3/3				/					
	OMS-671	3/3				/					
05-6L-2087-1	OMS-652	3/3				/					
	OMS-653	3/3				/					
	OMS-654	3/3				/					
	OMS-655	3/3				/					
	OMS-656	3/3				/					
	OMS-657	3/3				/					
05-6L-2088-1	OMS-878	3/3				/					
	OMS-879	3/3				/					
	OMS-880	3/3				/					
	OMS-881	3/3				/					
05-6L-2089-1	OMS-854	3/2R	P	F	P	/					
	OMS-855	3/2R	P	F	P	/					
	OMS-858	3/2R	P	F	P	/					
	OMS-859	3/2R	P	F	P	/					
	OMS-862	3/2R	P	F	P	/					
	OMS-863	3/2R	P	F	P	/					
	OMS-866	3/2R	P	F	P	/					
	OMS-867	3/2R	P	F	P	/					
	OMS-870	3/2R	P	F	P	/					
	OMS-872	3/2R	P	F	P	/					
	OMS-874	3/2R	P	F	P	/					
	OMS-875	3/2R	P	F	P	/					
05-6L-2089-2	OMS-856	3/2R	P	F	P	/					
	OMS-857	3/2R	P	F	P	/					
	OMS-860	3/2R	P	F	P	/					
	OMS-861	3/2R	P	F	P	/					
	OMS-864	3/2R	P	F	P	/					
	OMS-865	3/2R	P	F	P	/					
	OMS-868	3/2R	P	F	P	/					
	OMS-869	3/2R	P	F	P	/					

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *					
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
05-6L-2089-2	OMS-871	3/2R	P	F	P	/					
	OMS-873	3/2R	P	F	P	/					
	OMS-876	3/2R	P	F	P	/					
	OMS-877	3/2R	P	F	P	/					
05-6L-2090-1	OMS-529	3/3				/					
	OMS-534	3/3				/					
	OMS-574	3/3				/					
	OMS-582	3/3				/					
05-6L-2091-1	OMS-516	3/3				/					
	OMS-522	3/3				/					
	OMS-560	3/3				/					
	OMS-556	3/3				/					
05-6L-2093-1	OMS-986	3/3				/					
	OMS-988	3/3				/					
05-6L-2094-1	OMS-979	3/2R	P	P	P	/					
	OMS-980	3/2R	P	P	P	/					
	OMS-983	3/2R	P	P	P	/					
	OMS-984	3/2R	P	P	P	/					
05-6L-2109-1	OMS-660	3/3				/					
	OMS-669	3/3				/					
05-6L-2126-1	OMS-492	3/1R	P	NA	P	3/1R	P	F	P	EPD&C 1	X
	OMS-496	3/1R	P	NA	P	3/1R	P	F	P	EPD&C 1	X
	OMS-508	3/1R	P	NA	P	3/1R	P	F	P	EPD&C 1	X
	OMS-513	3/1R	P	NA	P	3/1R	P	F	P	EPD&C 1	X
05-6L-2126-2	OMS-493	2/1R	P	F	P	/				EPD&C 6	X
	OMS-497	2/1R	P	F	P	/				EPD&C 6	X
	OMS-509	2/1R	P	F	P	/				EPD&C 6	X
	OMS-510	2/1R	P	F	P	/				EPD&C 6	X
05-6L-2127-1	OMS-490	2/1R	P	P	P	/					
	OMS-494	2/1R	P	P	P	/					
	OMS-506	2/1R	P	P	P	/					
	OMS-511	2/1R	P	P	P	/					
05-6L-2127-2	OMS-491	3/1R	P	F	P	/				EPD&C 6	X
	OMS-495	3/1R	P	F	P	/				EPD&C 6	X
	OMS-507	3/1R	P	F	P	/				EPD&C 6	X
	OMS-512	3/1R	P	F	P	/				EPD&C 6	X
05-6L-2130-1	OMS-482	3/1R	P	P	P	/					
	OMS-484	3/1R	P	F	P	/					
	OMS-486	3/1R	P	P	P	/					
	OMS-488	3/1R	P	F	P	/					
	OMS-498	3/1R	P	P	P	/					
	OMS-500	3/1R	P	F	P	/					
	OMS-502	3/1R	P	P	P	/					
	OMS-504	3/1R	P	F	P	/					

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *					
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
05-6L-2130-2	OMS-485	2/1R	P	F	P	3/2R	P	F	P	EPD&C 3	X
	OMS-489	2/1R	P	F	P	3/2R	P	F	P	EPD&C 3	X
	OMS-501	2/1R	P	F	P	3/2R	P	F	P	EPD&C 3	X
	OMS-505	2/1R	P	F	P	3/2R	P	F	P	EPD&C 3	X
05-6L-2131-2	OMS-483	3/1R	P	F	P	3/3				EPD&C 3	X
	OMS-487	3/1R	P	F	P	3/3				EPD&C 3	X
	OMS-499	3/1R	P	F	P	3/3				EPD&C 3	X
	OMS-503	3/1R	P	F	P	3/3				EPD&C 3	X
05-6L-2134-1	OMS-847	3/2R	P	P	P	/					
	OMS-849	3/2R	P	P	P	/					
	OMS-851	3/2R	P	P	P	/					
	OMS-853	3/2R	P	P	P	/					
05-6L-2134-2	OMS-846	3/2R	P	F	P	2/1R	P	F	P	EPD&C 2	X
	OMS-848	3/2R	P	F	P	2/1R	P	F	P	EPD&C 2	X
	OMS-850	3/2R	P	F	P	2/1R	P	F	P	EPD&C 2	X
	OMS-852	3/2R	P	F	P	2/1R	P	F	P	EPD&C 2	X
05-6L-2136-1	OMS-975	3/2R	P	P	P	/					
	OMS-977	3/2R	P	P	P	/					
05-6L-2136-2	OMS-974	3/2R	P	F	P	/					
	OMS-976	3/2R	P	F	P	/					
05-6L-2137-1	OMS-930	3/2R	P	P	P	/					
	OMS-932	3/2R	P	P	P	/					
	OMS-934	3/2R	P	P	P	/					
	OMS-936	3/2R	P	P	P	/					
	OMS-938	3/2R	P	P	P	/					
	OMS-940	3/2R	P	P	P	/					
05-6L-2137-2	OMS-931	3/2R	P	NA	P	3/2R	P	P	P	EPD&C 3	X
	OMS-933	3/2R	P	NA	P	3/2R	P	P	P	EPD&C 3	X
	OMS-935	3/2R	P	NA	P	3/2R	P	P	P	EPD&C 3	X
	OMS-937	3/2R	P	NA	P	3/2R	P	P	P	EPD&C 3	X
	OMS-939	3/2R	P	NA	P	3/2R	P	P	P	EPD&C 3	X
	OMS-941	3/2R	P	NA	P	3/2R	P	P	P	EPD&C 3	X
05-6L-2151-1	OMS-602	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-603	3/3				3/2R	P	P	P	EPD&C 2	X
05-6L-2152-1	OMS-600	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-601	3/3				3/2R	P	P	P	EPD&C 2	X
05-6L-2153-1	OMS-444	3/3				3/2R	P	P	P	EPD&C 2	X
05-6L-2154-1	OMS-692	3/3				/					
05-6L-2155-1	OMS-605	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-607	3/3				3/2R	P	P	P	EPD&C 2	X
05-6L-2158-1	OMS-606	3/3				/					
05-6L-2176-1	OMS-384	3/1R	P	P	P	/					
	OMS-386	3/1R	P	P	P	/					
	OMS-388	3/1R	P	P	P	/					

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
	OMS-390	3/1R	P	P	P	/					
	OMS-392	3/1R	P	P	P	/					
	OMS-394	3/1R	P	P	P	/					
	OMS-396	3/1R	P	P	P	/					
	OMS-398	3/1R	P	P	P	/					
05-6L-2176-2	OMS-385	3/1R	P	P	P	/					
	OMS-387	3/1R	P	P	P	/					
	OMS-389	3/1R	P	P	P	/					
	OMS-391	3/1R	P	P	P	/					
	OMS-393	3/1R	P	P	P	/					
	OMS-395	3/1R	P	P	P	/					
	OMS-397	3/1R	P	P	P	/					
	OMS-399	3/1R	P	P	P	3/1R	P	F	P	EPD&C 1	X
05-6L-2177-1	OMS-677	3/1R	P	NA	P	/					
	OMS-679	3/1R	P	NA	P	/					
	OMS-681	3/1R	P	NA	P	/					
	OMS-683	3/1R	P	NA	P	/					
05-6L-2177-2	OMS-678	3/3				/					
	OMS-680	3/3				/					
	OMS-682	3/3				/					
	OMS-684	3/3				/					
05-6L-2201-1	OMS-420	3/1R	P	P	P	/					
	OMS-422	3/1R	P	P	P	/					
05-6L-2201-2	OMS-421	3/1R	P	P	P	/					
	OMS-423	3/1R	P	P	P	/					
05-6L-2202-1	OMS-466	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-468	3/3				/					
	OMS-470	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-472	3/3				/					
05-6L-2202-2	OMS-467	3/3				/					
	OMS-469	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-471	3/3				/					
	OMS-473	3/3				3/2R	P	P	P	EPD&C 2	X
05-6L-2204-1	OMS-458	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-459	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-460	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-461	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-462	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-463	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-464	3/3				3/2R	P	P	P	EPD&C 2	X
	OMS-465	3/3				3/2R	P	P	P	EPD&C 2	X
05-6L-2206-1	OMS-632	3/1R	P	F	P	/					
	OMS-640	3/1R	P	F	P	/					

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *					
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
05-6L-2206-2	OMS-633	3/1R	P	P	P	3/1R	P	F	P	EPD&C 1	X
	OMS-641	3/1R	P	P	P	3/1R	P	F	P	EPD&C 1	X
05-6L-2207-1	OMS-626	3/1R	P	F	P	/					
	OMS-628	3/1R	P	F	P	/					
	OMS-630	3/1R	P	F	P	/					
	OMS-634	3/1R	P	F	P	/					
	OMS-636	3/1R	P	F	P	/					
	OMS-638	3/1R	P	F	P	/					
05-6L-2207-2	OMS-627	3/1R	P	F	P	/					
	OMS-629	3/1R	P	F	P	/					
	OMS-631	3/1R	P	F	P	/					
	OMS-635	3/1R	P	F	P	/					
	OMS-637	3/1R	P	F	P	/					
	OMS-639	3/1R	P	F	P	/					
05-6L-2208-1	OMS-642	3/3				/					
05-6L-2208-2	OMS-643	3/1R	P	F	P	/					
05-6L-2209-1	OMS-622	3/3				/					
	OMS-624	3/3				/					
05-6L-2209-2	OMS-623	3/1R	P	P	P	/					
	OMS-625	3/1R	P	P	P	/					
05-6L-2210-1	OMS-707	3/2R	P	P	P	/					
	OMS-709	3/2R	P	P	P	/					
	OMS-711	3/2R	P	P	P	/					
	OMS-713	3/2R	P	P	P	/					
	OMS-716	3/2R	P	P	P	/					
	OMS-717	3/2R	P	P	P	/					
	OMS-719	3/2R	P	P	P	/					
	OMS-721	3/2R	P	P	P	/					
	OMS-723	3/2R	P	P	P	/					
	OMS-725	3/2R	P	P	P	/					
	OMS-727	3/2R	P	P	P	/					
	OMS-729	3/2R	P	P	P	/					
	OMS-731	3/2R	P	P	P	/					
	OMS-733	3/2R	P	P	P	/					
	OMS-735	3/2R	P	P	P	/					
	OMS-737	3/2R	P	P	P	/					
	OMS-739	3/2R	P	P	P	/					
	OMS-741	3/2R	P	P	P	/					
	OMS-743	3/2R	P	P	P	/					
	OMS-745	3/2R	P	P	P	/					
	OMS-747	3/2R	P	P	P	/					
	OMS-749	3/2R	P	P	P	/					

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
05-6L-2210-2	OMS-706	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-708	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-710	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-712	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-714	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-715	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-718	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-720	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-722	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-724	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-726	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-728	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-730	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-732	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-734	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-736	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-738	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-740	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-742	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-744	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-746	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
	OMS-748	3/2R	P	P	P	2/1R	P	P	P	EPD&C 1	X
05-6L-2251-1	OMS-400	3/1R	P	P	P	/					
	OMS-402	3/1R	P	P	P	/					
	OMS-404	3/1R	P	P	P	/					
	OMS-406	3/1R	P	P	P	/					
	OMS-408	3/1R	P	P	P	/					
	OMS-412	3/1R	P	P	P	/					
	OMS-416	3/1R	P	P	P	/					
	OMS-418	3/1R	P	P	P	/					
05-6L-2251-2	OMS-401	3/1R	F	F	P	/					
	OMS-403	3/1R	F	F	P	/					
	OMS-405	3/1R	F	F	P	/					
	OMS-407	3/1R	F	F	P	/					
	OMS-409	3/1R	F	F	P	/					
	OMS-413	3/1R	F	F	P	/					
	OMS-417	3/1R	F	F	P	/					
	OMS-419	3/1R	F	F	P	/					
05-6L-2252-1	OMS-410	3/1R	P	NA	P	/					
	OMS-414	3/1R	P	NA	P	/					
05-6L-2252-2	OMS-411	3/3				/					
	OMS-415	3/3				/					
05-6L-2253-1	OMS-450	2/1R	P	P	P	/					
	OMS-452	2/1R	P	P	P	/					

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
05-6L-2253-2	OMS-451	3/1R	P	P	P	/					
	OMS-453	3/1R	P	P	P	/					
05-6L-2253A-1	OMS-450A	2/1R	P	P	P	3/1R	P	P	P	EPD&C 3	X
	OMS-452A	2/1R	P	P	P	3/1R	P	P	P	EPD&C 3	X
05-6L-2253A-2	OMS-451A	2/1R	P	P	P	3/3				EPD&C 3	X
	OMS-453A	2/1R	P	P	P	3/3				EPD&C 3	X
05-6L-2253B-1	OMS-450B	3/1R	P	P	P	/					
	OMS-452B	3/1R	P	P	P	/					
05-6L-2253B-2	OMS-451B	3/3				/					
	OMS-453B	3/3				/					
05-6L-2253C-1	OMS-450C	3/1R	P	P	P	3/1R	P	F	P	EPD&C 1	X
	OMS-452C	3/1R	P	P	P	3/1R	P	F	P	EPD&C 1	X
05-6L-2253D-1	OMS-450D	3/2R	P	P	P	3/1R	P	P	P	EPD&C 2	X
	OMS-452D	3/2R	P	P	P	3/1R	P	P	P	EPD&C 2	X
05-6L-2255-1	OMS-450E	3/1R	P	F	P	3/3				EPD&C 3	X
	OMS-452E	3/1R	P	F	P	3/3				EPD&C 3	X
05-6L-2256-1	OMS-450F	2/1R	P	F	P	3/3				EPD&C 3	X
	OMS-452F	2/1R	P	F	P	3/3				EPD&C 3	X
05-6L-2256A-1	OMS-450G	3/1R	P	F	P	3/3				EPD&C 3	X
	OMS-452G	3/1R	P	F	P	3/3				EPD&C 3	X
05-6L-2256B-2	OMS-451C	3/1R	P	F	P	3/3				EPD&C 3	X
	OMS-453C	3/1R	P	F	P	3/3				EPD&C 3	X
05-6L-2257-1	OMS-454	3/1R	P	P	P	3/2R	P	F	P	EPD&C 1	X
	OMS-456	3/1R	P	P	P	3/2R	P	F	P	EPD&C 1	X
05-6L-2257-2	OMS-455	3/1R	P	P	P	3/2R	P	P	P	EPD&C 3	X
	OMS-457	3/1R	P	P	P	3/2R	P	P	P	EPD&C 3	X
05-6L-2257A-1	OMS-454A	2/1R	P	P	P	3/2R	P	P	P	EPD&C 3	X
	OMS-456A	2/1R	P	P	P	3/2R	P	P	P	EPD&C 3	X
05-6L-2257A-2	OMS-455A	2/1R	P	P	P	3/3				EPD&C 3	X
	OMS-457A	2/1R	P	P	P	3/3				EPD&C 3	X
05-6L-2257B-1	OMS-454B	3/1R	P	P	P	/					
	OMS-456B	3/1R	P	P	P	/					
05-6L-2257B-2	OMS-455B	3/3				/					
	OMS-457B	3/3				/					
05-6L-2257C-1	OMS-454C	3/1R	P	P	P	3/1R	P	F	P	EPD&C 1	X
	OMS-456C	3/1R	P	P	P	3/1R	P	F	P	EPD&C 1	X
05-6L-2257D-1	OMS-454D	3/2R	P	P	P	/					
	OMS-456D	3/2R	P	P	P	/					
05-6L-2258-1	OMS-454E	3/1R	P	F	P	/					
	OMS-456E	3/1R	P	F	P	/					
05-6L-2259-1	OMS-454F	3/1R	P	F	P	3/3				EPD&C 3	X
	OMS-456F	3/1R	P	F	P	3/3				EPD&C 3	X
05-6L-2260-1	OMS-454G	2/1R	P	F	P	3/3				EPD&C 3	X
	OMS-456G	2/1R	P	F	P	3/3				EPD&C 3	X

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *					
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
05-6L-2260A-1	OMS-454H	3/1R	P	F	P	3/3				EPD&C 3	X
	OMS-456H	3/1R	P	F	P	3/3				EPD&C 3	X
05-6L-2260B-2	OMS-454I	3/1R	P	F	P	3/3				EPD&C 3	X
	OMS-456I	3/1R	P	F	P	3/3				EPD&C 3	X
05-6L-2261-1	OMS-614	3/1R	P	F	P	/					
	OMS-616	3/1R	P	F	P	/					
	OMS-618	3/1R	P	F	P	/					
	OMS-621	3/1R	P	F	P	/					
05-6L-2261-2	OMS-615	3/1R	P	F	P	/					
	OMS-617	3/1R	P	F	P	/					
	OMS-619	3/1R	P	F	P	/					
	OMS-620	3/1R	P	F	P	/					
NONE	OMS-438	/				3/1R	P	P	P	EPD&C 4	X
	OMS-442	/				3/1R	P	P	P	EPD&C 4	X
	OMS-515	/				/					
	OMS-517	/				/					
	OMS-519	/				/					
	OMS-521	/				/					
	OMS-523	/				/					
	OMS-525	/				/					
	OMS-528	/				/					
	OMS-531	/				/					
	OMS-535	/				/					
	OMS-536	/				/					
	OMS-539	/				/					
	OMS-541	/				/					
	OMS-543	/				/					
	OMS-545	/				/					
	OMS-547	/				/					
	OMS-549	/				/					
	OMS-551	/				/					
	OMS-553	/				/					
	OMS-555	/				/					
	OMS-557	/				/					
	OMS-559	/				/					
	OMS-561	/				/					
	OMS-563	/				/					
	OMS-565	/				/					
	OMS-567	/				/					
	OMS-569	/				/					
	OMS-575	/				/					
	OMS-577	/				/					
	OMS-583	/				/					
	OMS-585	/				/					

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA			IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B C	CRIT HW/F	SCREENS A	B C	OTHER (SEE LEGEND CODE)	ISSUE
NONE	OMS-593	/			3/3			EPD&C 4	X
	OMS-596	/			3/3			EPD&C 4	X
	OMS-604	/			3/2R	P	P P	EPD&C 5	X
	OMS-661	/			/				
	OMS-666	/			/				
	OMS-689	/			2/2			EPD&C 5	X
	OMS-882	/			3/3			EPD&C 5	X
	OMS-883	/			3/3			EPD&C 5	X
	OMS-884	/			3/3			EPD&C 5	X
	OMS-885	/			3/3			EPD&C 5	X
	OMS-886	/			3/3			EPD&C 5	X
	OMS-887	/			3/3			EPD&C 5	X
	OMS-888	/			3/3			EPD&C 5	X
	OMS-889	/			3/3			EPD&C 5	X
	OMS-890	/			3/3			EPD&C 5	X
	OMS-891	/			3/3			EPD&C 5	X
	OMS-892	/			3/3			EPD&C 5	X
	OMS-893	/			3/3			EPD&C 5	X
	OMS-978	/			/				
	OMS-981	/			/				
	OMS-982	/			/				
	OMS-985	/			/				
	OMS-987	/			/				
	OMS-989	/			/				